week:
software reviews
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Home Computing WEEKLY

An Argus Specialist Publication

No. 31
Oct 4-10, 1983

38p

FREE:
£1,000 worth of Rabbit software must be won

PROGRAMS FOR:
Spectrum, VIC-20, TI-99/4A, Atari, COMX 35, Sharp MZ-80K

SOFTWARE REVIEWS FOR:
Oric, Dragon, BBC, Spectrum, ZX81, Atari, TI-99/4A

How to make your ZX81 programs crashproof

We reveal the hidden mode for more colourful Commodore 64 programs

ARENA III
MARATHON MATHS FOR FUN
Adventure Plus
ARCADE
THE DETECTIVE
Jumping Jack
...the name of the game
ARCADE
LAST SUNSET FOR LATTICA

Woolles, the new giant in micros

Woolies will soon be the country's biggest retailers of home computers and software with stocks in nearly 500 stores

Shipments are going out now and before Christmas five computers and two games players will be on the shelves with tapes and cartridges alongside

Until now W H Smith has had the most outlets for these products, with 250 stores, including six shops within-shops

Bob Egerton, buying manager for F W Woolworth, said the chain had sold some computers last Christmas and explained "We are branching out now the market is settling down and maturing "

The larger stores, including the

continued on page 5

BBC goes to the USA

Acorn Computers is gearing up to launch a major attack on the American educational computing market

Hong Kong company Wong Electronics has been commissioned to produce 50,000 BBC micros specially for the US market over the next 12 months

The machines are being produced in Hong Kong partly because there isn't enough production capacity in the UK, and partly because Hong Kong is handier for export to the US

continued on page 5

ocean
TWO NEW RELEASES
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3 DEEP SPACE
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Briefly

Shards Software is releasing five new programs four for the Dragon and one for the BBC B. The Dragon tapes are Puzzler a jigsaw puzzle generator (£6 95), Junior Pack (£3 95) and Fun to Learn (£6 95), two educational tapes and Pettigrews Diary (£7 95), a three part adventure taking up 90K in all For the BBC there's Monster Maths, costing £6 95

Shards Software 189 Eton Road, Ilford Essex IG1 2UQ

• • •

Dixons Software Express is a new mail order service from the Dixons chain, which offers over 400 home computer and TV games from a range of well known names Machines covered include the Atari 400 800, Commodore 64, VIC, Dragon, TI 99 4A and Oric. Dixons Software Express catalogue is available free from all Dixons branches and you can place your orders direct through a branch or by post or phone Orders are said to be despatched within 24 hours

Dixons Prinz House 54 58 High Street Edgware Middlesex

• • •

Ocean Software has been given a licence to produce Century Electronics Hunchback arcade game for home computers Hunchback a version of Kong based on the story of the Hunchback of Notre Dame, will be available soon from Ocean for the Spectrum, Commodore 64 Oric Dragon and Electron Superior Software will be producing a BBC version

Ocean Ground Floor Ralli Buildings Stanley Street, Manchester

• • •

If you're worried that your micro will break down Astronics is offering an extended warranty scheme which will extend the maker's guarantee for three or five years The scheme covers most popular home micros, plus some peripheral equipment such as printers or disc drives Warranties are available not just for new equipment, but for items where the maker's guarantee has expired too

Astronics, Unit 2 Eastern Industrial Estate, Jackson Close Cosham, Portsmouth, Hants PO6 1QW

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SOFTWARE SUPERMARKET

Rabbit prize! Run to page 16 and spot the differences

This game'll go down like a bomb with your Spectrum — page 19

Software with a Mersey beat — page 30

Better keep out of that alien's way — page 25

NEW!!
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At last you can play Bridge against your Spectrum! Uses the Acol bidding system with Stayman and Blackwood conventions. [illegible]
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16K Jupiter Ace £6.95

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48K Spectrum £9.95

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Woolies

From front page

Woolco hypermarkets will take the full range of computers 16K and 48K Spectrum, Commodore 64 VIC-20 Atari 600XL and 2600XL and the Colecovision and Philips games players

As the size of the stores varies fewer of the range will be stocked so 493 will have Spectrums on sale and 160 will stock the Atari 600XL.

Software is being distributed to the stores by Multiple Sound Distributors best known for its Warwick Chevron and Tempo record and tape labels

In a short time the larger Woolworth stores would be stocking the top 50 computer titles said Multiple's sales and marketing director Ben Godbolt

At first the software would be largely from the computer makers, but titles from Ocean, Rabbit, Quicksilva and others are due to go on the shelves

Mr Godbolt said "It will take time to acquire a share of the market because the range will be smaller to start with But we will be stocking all the currently popular titles

"We are running it like a record department with a sales force calling on the stores regularly a catalogue and telephone sales

"If someone calls in and the title is in our catalogue but not in stock we can supply it in 24-48 hours under normal circumstances."

Speaking of software houses, he said "There are 300 of them in the UK and I've tried to find ways of reaching them without talking to each one individually"

• W H Smith has brought its number of computer shops within-shops up to six by opening one each in Kensington High Street, Cardiff and Exeter last week

F W Woolworth & Co, 242 246 Marylebone Road, London NW1

BBC in US

From front page

According to Acorn the micros Wong produces will be "beefed up", full specification models complete with interfaces for disk drive, voice synthesis and connection to the Econet network

They will come with two sets of teacher training notes, and will be priced at $995

In addition, Acorn is setting up a panel of American education experts to keep an eye on all educational software being written for the BBC micro in the US

The panel will promote the best programs, and encourage companies to write software to fill perceived gaps in the market

The first micro will be shipped from Hong Kong to the US this month They will be aimed mainly at schools, but an Acorn spokesman said "We're obviously hoping they will be bought for home use, too"

Like Sinclair, Acorn is also looking into the possibilities of selling the BBC micro in China

Wong Electronics is negotiating on Acorn's behalf with the Chinese government, which currently has a number of BBC machines for evaluation.

LATE NEWS

Sinclair launches interface 2

Sinclair's new Interface 2 — now, cartridge software and joystick ports for the Spectrum

Sinclair's Interface 2 for the Spectrum made its first public appearance last week at the Personal Computer World show

The Interface 2 can be plugged either directly into the Spectrum's rear expansion port or into the recently launched Interface 1

It enables Spectrum owners to use cartridge-based software, which plugs into a slot on the top of the Interface

There are also two joystick ports which will accept standard 9 way D plugs

A separate expansion port for the ZX printer is also provided

The Interface 2 costs £19.95

Launched along with the Interface 2 were ten cartridge games, costing £14.95 each

Six of these — Space Raiders, Planetoids, Hungry Horace, Horace and the Spiders, Chess and Backgammon — are already sold by Sinclair in cassette form

The other four are Pssst, Jet Pac, Cookie and Tranz Am from Ultimate Play the Game

Sinclair Research, Stanhope Road, Camberley, Surrey GU15 3PS

Imagine seeks 30

Imagine the Liverpool based software house, is seeking 30 more programmers says operations director Bruce Everiss Depending on experience they would earn, he said, £6 000-£10 000 a year for programming in machine code for the Z80, 6502 and 6809 processors Bonuses could increase their earnings by 50 per cent

Imagine Software, 5 Sir Thomas Street Liverpool

Key to the keys

Keyboard overlays designed to make programming easier have been produced for the VIC 20, Commodore 64, Dragon and BBC computers

They cost £8.95-£9.95 and, said Peter Tucker, joint managing director of Microguides "to a large extent they can free users from the handbook."

Microguides, St James House, 105 113 The Broadway, Ealing W13 9BL

You could be on our pages

We welcome programs articles and tips from our readers.

PROGRAMS should, if possible, be computer printed to a width of 48 characters (use a new ribbon) and/or sent on cassette. Check carefully that they are bug-free. Include details of what your program does, how it works, variables you have used and hints on conversion.

ARTICLES on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCW. Articles most likely to be published will help our readers make better use of their micros by giving useful ideas, possibly with programming examples. We will convert any sketched illustrations into finished artwork.

TIPS are short articles, and brief programming routines which we can put together with others. Your hints can aid other computer users.

Competitive rates are paid.

Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Liptrot, Home Computing Weekly, 145 Charing Cross Road, London WC2H 0EE

Everyone's a winner

Congratulations to the 25 winners of our competition in issue No 27 Each will receive a package of tapes, worth about £40, from CRL.

We asked you to find a number of words scattered throughout the magazine and make them into a sentence

There were nine words — counting the hyphen as a space — and the sentence was "BASIC stands for Beginners' All-purpose Symbolic Instruction Code."

Most entrants got the right answer, but it was the first 25 we drew out of the large box that will get the prizes.

The winners' prizes will arrive from CRL within 28 days. They are

John Hmbury, of London SE7, S Harris, of Seaham, Co Durham, Mike Piddlesden, of Steyning, West Sussex; Andrew R McGoldrick of Christchurch, Dorset Stephen Smallwood, of Bedworth, Warks, William J. McCaul, of Paisley, Renfrewshire,

B M Woodman, of Redditch, Worcs, C Holland, of Stourport-on-Severn, Worcs, Alan McKee, of Bishopton, Renfrewshire, C Bartlett, of Warwick, Warks, Adrian Carey, of Plymouth, Kevin Grantham, of Hull, Nicholas Nettleton, of Hull; Mr and Mrs J Greydanus, of Portlethen, Scotland, Stephen Holland of Market Drayton, Shropshire, A Whitlock, of Rubery, Birmingham, B Harvey, of Barking, Essex,

Trevor Harvey, of Fleet, Hants; Kevin Sharkey, of Stanley, Co Durham, Mrs S Stonnell, of Flitwick, Beds, David Webster, of London SE25, Miss L Knight, of Sittingbourne, Kent, R Finch, of Walsall, Wendy Lyons, of Reigate, A A Ayland, of Southampton

Software that switches?

Computers must be designed so software will work on most home micros, says the Computer Trade Association in a message to Whitehall

The CTA is setting up a committee to decide on formats, but thinks about six would be needed to cover micros from home machines to bigger systems used in businesses. One would be based on the 6502 processor for home and educational use

Mr Backhurst said the CTA would also like to see the BBC's standards placed in the public domain so they would become an industry standard

He said: "We have got to get something going fast before the Japanese MSX standard takes off."

Computer Trade Association, 108 Margaret Street Coalville, Leics LE6 2LX

Ants, fleas and turtles from Quicksilva

A Scottish sculptor and a pair of Spaniards are among the authors of 10 new programs from Quicksilva

There are four for the Spectrum, two for the BBC model B micro and four — Quicksilva's first — for the Commodore 64

Sculptor Sandy White, who lives in Edinburgh, wrote Ant Attack in what QS has called "soft solid 3D" It features a walled city peopled by giant ants which have to be destroyed so boys and girls can be rescued

According to QS director Mark Eyles, Mr White's technique means the player can choose from four camera angles to view the scene, giving a realistic playing area

The Spanish program was written by two people calling themselves Paco and Paco, from Spain's Indescomp software company It is called Bugaboo (The Flea)

QS has a deal with Salamander to market Spectrum conversions of games written by Jeff Minter, of Llamasoft The first are Trax and the well known Gridrunner, with more to follow

All four Spectrum titles cost £6 95

The four Commodore 64 games — released simultaneously in America — are Purple Turtles, in which a little man has to cross a river, Aquaplane, a speedboat game converted from the Spectrum, Quintic Warrior, a space zap 'em up game, and an adventure called Ring of Power in which the player has a choice of graphics or text at any point in the game Three cost £7 95 and Ring of Power is £9 95

For the BBC model B Quicksilva is launching Mined Out, converted from the Spectrum, and The Generator, a character generator by Dave Mendes, author of Beebart One of the demonstration pages features a company called Baconsoft Both programs cost £6 95

Mr Eyles said QS plans to produce software for the Electron, the "cut down" BBC computer

Quicksilva, 13 Palmerston Road, Southampton, Hants SO1 1LL

Why micros in schools could do better

As microcomputers advance swiftly into the classroom, the lack of a common approach to computer education becomes more and more apparent

There seems to be no recognised program of activities that an inexperienced teacher, finding a new computer donated to his or her department, can refer to

The main source of any aid is through the local or county resource centres, but these are woefully undermanned and are largely ineffective Who, then, can blame the teacher for leaving the computer unsupervised and open to just games?

There is nothing wrong with an element of games playing — it all helps to create and retain enthusiasm and interest But when after-school clubs and even lessons become little more than a arena to play and swap the latest arcade game, then there is something seriously wrong

What is needed is a much more co-ordinated approach to the special problems that educational computing brings The government under its various schemes — the most widely-publicised being the Department of Industry's 'Pound for a Pound' — is seeking to increase computer awareness and knowledge in schools

Whether you agree or diagree with the methods that they are using, the sentiment has to be applauded Surely some of the massive sum that has been allocated could be spent on providing an instructive guide to the teacher?

I would like to see a national grouping formed consisting of teachers, educationalists, major software houses and interested parents

Backed by state funding, these interested parties could discuss the special problem and come up with some concrete proposals that could be acted upon, and not just end up with another shelved government report

I would particularly like to make a special plea to the software houses The range of educational software for many, if not most, micros is very disappointing

Much of the material is of a low standard, of little practical use and grossly overpriced Many of the larger software houses have not even bothered to write and sell a single program for the educational sector

The one main exception is the BBC Micro, which due to governmental insistence, is found in many schools and is well-provided with the sort of thoughtful, balanced material that other computers desperately need

It seems that this sort of software is not as commercially viable as the multitude of games software that is available for all computers As it is not profitable enough, it is not considered

Come on now, you big companies sitting in your ivory towers counting your profits, why not invest even a small amount into educational software?

Clive Gifford
Author of home computing books
Ashford, Middlesex

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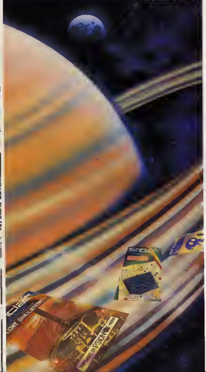

Psion is the source for the best software programs you'll ever see on a Sinclair Spectrum.

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It's all down to programming skill. Flight Simulation – a real-time program – is a special breakthrough in this field. Few other programs make such full use of your Spectrum's capabilities.

In all, there are 12 challenging titles published exclusively under the Sinclair label. (Not counting the free 'Horizons' cassette that introduced you to your computer.)

Psion programs for the Spectrum

- Flight Simulation (48K)
- Chess (48K)
- Space Raiders
- Planetoids
- VU-CALC
- VU-FILE
- VU-3D (48K)
- Hungry Horace
- Horace and The Spiders
- Horace goes Skiing
- Backgammon
- Computer SCRABBLE® (48K)

Horace series produced in conjunction with Melbourne House. SCRABBLE® trademark and copyright licenced by Scrabble Schutzrechte und Handels GmbH – a J W Spear and Sons PLC subsidiary.

Unbelievable? A recent W H Smith chart of best-selling Spectrum programs speaks for itself. No less than 7 of the top 12 cassettes are by Psion. And there's more to come. Watch out for our very latest program, 'Chequered Flag'.

In fact, if you're choosing software for your Spectrum, there's just one way to find the best.

Look for the Psion symbol on the cover of the cassettes.

PSION

Just scrolling
Spectrum

Tim Boone mentioned in his tip about scrolling letters, that he did not understand why POKEing 23606 with a number other than 0 scrolled letters

It works because 23606 and 23607 are the low byte and high byte respectively of the starting address of the character set in the Spectrum (15616) and when converted give values of 0 and 60

Each character is made up of a set of eight bytes the first and last of which in each character has the value 0, ie a blank line at top and bottom

When 23606 is POKEd with a value greater than 0, say 1, then the start address of the character set then becomes 15617 instead of 15615 Consequently, all the letters printed on the screen lose the top blank line, which then appears on the letter alphabetically before it, ie the blank line at the top of the letter "B" appears at the bottom of the letter "A" moving A up the screen one line and so on through the whole character set

This also explains why you are able to use a redefined character set in RAM, putting it wherever you need it The new values for 23607 and 23606 are calculated by

```
for 23607 LET HIGH=(INT (ADDRESS/256))
for 23606 LET LOW=(INT (ADDRESS-256*HIGH))
```

These two values will then indicate the point at which the new character set is in memory

A MacLennan

Talking program

As a newcomer to computing (Atari 800) am I alone as a one-fingered typist? When following a program in a magazine with one hand how do you press two keys together ie SHIFT and CLEAR etc? A big hand span? Or lose your place in the program?

If several lines are similar it's easy to go back to the wrong line I think I may have a solution which may help others

I use a small portable cassette recorder with a built in mike and read out programs aloud Thus has several advantages

- Two hands to type with (read as two fingers)
- Familiarising oneself with the program layout
- Fewer typing errors

If the program does not work then it can be a long and tedious job checking through it but with a quick rewind of the tape you can listen to yourself while checking the screen

I must admit it took a little while to get my speech down to a speed that I could type at but there is always a pause button or a short rewind

J R Styth

Among these discoveries and suggestions could be just what you were seeking. Why not share your tips? Send them to: Tips, Home Computing Weekly, 145 Charing Cross Road, London WC2H 0EE

Tuning up the
Oric

Here is a routine for playing music using the three channels of the Oric

T$ holds the numbers for the tune

```
10 T$="1432143214141432l"
20 FOR I=! TO LEN(T$)
30 N=ASC(MID$(T$,1,1))-47
40 PLAY 7,0 5,2500
50 MUSIC 1 1 N 10
60 MUSIC 2,2,N,10
70 MUSIC 3 3 N,10
80 WAIT 15
90 NEXT
100 PLAY 0,0,0,0
```

B. Wilkinson

Defined characters on your 16k
VIC

To convert a 16k + VIC to use defined characters, POKE the following

```
POKE 648 30 POKE 642,32
    SYS 64824 (Return)
```

Enter as a direct command, as this clears the VIC as though you had just switched on and reserves memory below the screen which is now back at 7680, for defined characters

But take out any 51,52,53 54,55 56s, as these are no longer needed in a program!

David Shepherdson

Garbage collecting
TI-99/4A

One of your reviewers recently mentioned the TI 99/4A pausing while a program was running

This is the garbage collector

If you EDIT a program line there is a pause before the cursor reappears the computer is removing an old line, moving the others up and adding the new line to the stack

In a running program it is more efficient to do this only when memory becomes full in the meantime dead" variable values are stored Only when memory is full of redundant values does the computer take time out to throw out the dross While it does this, everything stops for a short while (even the sprites in Extended Basic)

Garbage collection takes place more frequently the longer the program There is no way of preventing it, short of avoiding use of the stack (very difficult!)

Stephen Shaw

Keeping TAB
Oric

If you fear your Oric may be faulty because the TAB doesn't work, relax — this is perfectly normal Use SPC is place of TAB and you will find absolutely no difference as long as you've got a PRINT statement before it

You can also use EDIT on the Oric though you won't find it in the user manual anywhere Perhaps the manual needs editing?

Ian Scull

Private lines
Spectrum

Just a simple tip for Spectrum owners who want to make a private program inaccessible to anyone except themselves

Before SAVEing put in as a direct command

```
LET s$="(some secret word, figure, graphic whet have you)"
```

SAVE from a program line with an auto run

```
7000 SAVF ' Private' LINE 5
```

And use these lines

```
5 FOR c=1 TO 3 CLS PRINT
    "Access word please?" IN
    PUT
LINE X$ IF X$=s$ THEN GO
    TO 15
10 NEXT C NEW
15 CLS (and go on with the pro
    gram)
```

The use of LINE in line 5 makes it impossible to use BREAK or STOP so you cannot LIST and without the access word you cannot go on Try three times and you lose the lot!

After using the program it is as well to change the word by

```
LET s$ = "(a new word)"
```

and then to SAVE again

Do remember the word yourself or you've had it!

Andrew Turek

Oric-1

This subroutine for the 48K Oric 1 allows the user to display messages on the top line of the display (normally reserved for the Oric's messages) This could be useful for displaying scores etc in games because this line does not scroll with the rest of the page

```
100 REM ROUTINE TO
    PRINT ON TOP LINE
100 M$ = TEXT TO BE PUT
    ON TOP LINE
120 FOR C = #BB83 TO#
    BB83 + 36 POKE C 32
    NEXT C
130 FOR C  1 TO LEN (M$)
    POKE #BB83 + C  ASC
    (MID$(M$ C 1)) NEXT C
140 RETURN
```

The text can be made flash by adding

```
125 M$ = CHR$(#C) + M$
```

If any reader has a 16K Oric then 8000 HEX must be subtracted from all addresses used

Colin Falles

Testing [illegible]
TI-99/4A

Most of the assembly language games on TI 99 4A modules have a test mode Return to the game title screen using BACK then quickly press keys "#" (eg hold SHIFT down and press 8 3 8) Then respond to the screen prompts quickly

Stephen Shaw

Dragon goes out to play

Adventures, flight simulation and card and driving games — all put through their paces by our review panel

Draganfly £6.95

Hewson Consultants, 60A St Mary's Street, Wallingford, Oxfordshire OX1 0EL.

A flight simulator program written in BASIC You are the pilot of a light aircraft You have been cleared for take off and can either fly a circuit to land back at the same airfield or fly to another airport to land A radio beacon will guide you on either flight

At the start you can opt to use a joystick but I found that this was not beneficial You also choose the wind strength which varies from zero to hurricane You must also decide how much fuel you wish to carry At the beginning you can look at a map which shows relative positions

Written instructions are included and the main ones, together with some extras, are given on screen

One of the first things to do is to increase the power to 3,000 rpm I very nearly abandoned this program at this stage because after 10 minutes I had failed to increase revs at all I had switched on the engine but the specified key failed to produce the desired results

Never one to give up easily I decided to try various other keys and discovered that the full stop was the correct key To decrease revs had a similar problem

I discovered it was fairly easy to take off but even easier to crash which I did with monotonous regularity every time I tried to land **J M**

instructions 50%
playability 50%
graphics 40%
value for money 50%

★ ★ ★

Adventure Plus £7.95

Premier Microsystems, 208 Croydon Road, Anerley, London

A mismatch between cover and content My packaging had a hooded figure mounted astride a green monster overlooking a castle

The reality is a wander through a garden via the greenhouse, shed and into a house

Yes, there is more but it becomes apparent that the setting is quite ordinary

However, once the program is judged on its own merits one discovers an interesting adventure of medium difficulty

Although very little assistance is given in terms of vocabulary this presents few problems A lot of HELP is given at different stages of the game

The fun, of course, is in the discovery of objects and treasure This is an all text adventure which runs smoothly and responds quickly enough on entering of commands

A nice touch is the score which can be obtained at any stage and a final comment on how well you rate as a treasure hunter

Recommended if you want a reasonable start to this type of game but once it's completed there are no surprises **M P**

instructions 20%
playability 80%
graphics n/a
value for money 80%

★ ★ ★ ★

Sir Lancelot £6.45

Alton, 21 Crossbanks, Shipley, W Yorks BD18 3RW

As Sir Lancelot your job is to explore the evil Lord's castle in order to see if it is safe and empty

This is another text adventure allowing you to roam about discovering hazards, treasures and monsters There is a vocabulary of 30 verbs and a magic ruby to help you on your way

The program is written in BASIC and takes almost three minutes to load Instructions are quite clear although provided on a plain piece of paper — no concession to commercialisation!

In fact, there was a definite amateur feel to the whole presentation, highlighted by the odd spelling mistake and a syntax error in line 1850!

Once this is adjusted (I haven't come across any others yet) the program runs smoothly at different skill levels Commands are entered one word at a time in the usual verb noun and the responses are fast enough

I managed to accomplish a fair amount with little difficulty at the easiest level and it certainly seems ideally suited to those who, struggling with more complex adventures, get frustrated easily

No SAVE feature, unfortunately and therefore one has the tedious business of going through all the motions repeatedly **M P**

instructions 80%
playability 90%
graphics n/a
value for money 80%

★ ★ ★

Marocca Grand Prix (jaystick) £8

Microdeal 41 Truro Road St Austell, Cornwall PL25 5JE

Drive 100 miles competing in this race, avoid crashing into the barriers and the other competitors Once loaded, achieved easily the program asks for the background colour — buff, a pleasant option, green, bright and a bit hard on the eyes or black, which is best for a black and white TV and was my preference, even on a colour screen

A brief display of the joystick controls and away The controls are left and right with up for fast and down for slow Your car is at the bottom of the screen and the track and other cars scroll down towards you

The colourful insert contains basic instructions — it fails to explain that travelling fast scores twice the points

On completion of the course your score is kept on a chart if high enough but not your name Graphics are good but the sound is a trifle raucous side

Often simple games are effective

However, this game is too simple, the difficulty level does not increase and, once mastered, its interest wanes

In fact my interest waned after a few plays

It was too slow for my tastes even though it is in machine code, and provided no real challenge **R E**

instructions 70%
playability 40%
graphics 50%
value for money 35%

★ ★

Baccarat £6.75

Cable Software distributed by PSL Marketing, 52 Limbury Road Luton, Beds LU3 2PL

The first thing that hits you about this program is the suave packaging It comes in a neat presentation box similar to that used for some video tapes The cover features a very impressive playboy character who appears to be a mix of 007 and The Saint

In fact when the program is loading you are informed that the game Baccarat was played in the James Bond film, Casino Royale

The cover states "Baccarat is card game normally played by the rich and famous in the elegant atmosphere of the most exclusive casinos of the world" So it may be but not being either rich or famous I cannot verify that

The game is a variation of the game 21 but here the target score is only nine Picture cards count as zero

It proved very difficult to load and some human intervention was needed loading each section of BASIC and machine code one at a time Excellent graphics and an attempt at speech When a bet is accepted the Dragon calls "Banco" in a quite convincing voice

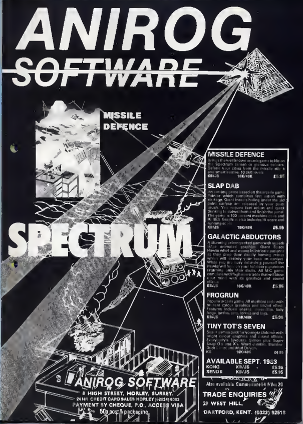
I will not go into the rules of the game here but it's very much a game of chance and does leave you feeling like a spectator with very little choice and almost no skill involved

D W J

instructions 75%
playability 30%
graphics 85%
value for money 30%

★ ★ ★

ANIROG SOFTWARE



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If more programs shared the quality of OMNICALC then we might see more Spectrums in offices. Home Computing Weekly 3/5/83

It is ideal for someone who has just found the spreadsheet concept, but it is also a very powerful tool for anyone who has used one previously. Sinclair User June 1983

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THE ΩMEGA RUN

....is coming

Think carefully — you may lose your computer

Micros are the targets in this two-player strategy game written by Lance Booth for the standard TI-99/4A

Micro Checkers is a game of strategy for two players. The object is to capture and destroy your opponent's microcomputer.

You have seven chips to do battle with. These must not only be used for attacking your enemy's micro, but also for defending your own. Players may move any of their pieces (including their micro), one square diagonally in any direction, on each of their turns.

You select which player to move and where to move it to, by pressing the appropriate letter keys as prompted on the screen.

To capture an opponent's piece including their micro, you simply move to the square that piece is occupying. Be careful where you move — you might destroy one of your own pieces or leave yourself open to attack.

If you make an illegal move or don't follow instructions or try to move on of your opponent's pieces than you will be disqualified and will lose the game.

This program was written for the standard TI-99/4A but should be convertible for use on any computer with user-defined characters.

Hints on conversion

CALL CHAR(ASCII code number, hexadecimal string) defines the pattern to be given to the character with the ASCII code stated

CALL HCHAR(row number, column number, ASCII code, number of repetitions) places character with ASCII stated at row and column specified and optionally repeats it horizontally the number of times stated

CALL VCHAR(row number, column number, ASCII code, number of repetitions) works in the same way as CALL HCHAR only repeats vertically

CALL GCHAR(row number, column number, numeric variable) equivalent of PEEK. Assigns ASCII code of character at row and column stated to numeric variable

CALL CLEAR clears the screen

CALL COLOR(character set, foreground colour code, background colour code) specifies foreground and background colours for all characters in set specified

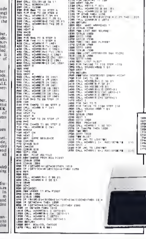
CALL SCREEN(colour code) specifies screen colour using colour code

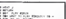
CALL SOUND(duration, frequency, volume) produces sound. Duration in milliseconds, frequency in Hertz (or noise code), and volume in scale from 0 loudest to 30 quietest

CALL KEY(key unit,k,s) equivalent of INKEY$, returns code of key pressed in variable k

How it works

120-260 define characters and colours
270 sets screen colour
280 clears screen
290-360 displays board
370-600 displays players
610-740 displays square guide
750-800 game loop
810-1060 move routine
820-840 select old square
850-880 situation check
890-900 clear old position
910-930 swap variables
940-960 select new square
970-1000 situation check
1010-1040 display new player
1060-1190 select square
1070-1100 select row
1110-1120 delay loop
1130-1160 select column
1170 is square on board
1180 look at new position
1200-1540 what happened
1210-1240 bad square
1250-1280 bad player
1290-1320 destroyed own micro
1330-1370 plays music
1380-1540 winner
1550-1670 displays messages
1680-1760 play again?





Which way will you turn now?

Our Hallowe'en adventure is being published over three issues, but each week you can play the game without the other parts. Alan Blackham, who wrote the program for the VIC-20 plus 3K of extra RAM, explains . . . .

Here's part three of my Hallowe'en adventure for the VIC 20 with 3K expansion. It's similar in structure to part two — again you have 10 rooms and you have to find more stairs.

I have written the program so that you can use it even if you missed parts one and two in last week's Home Computing Weekly.

And like last week, part three is independent of part four, so you can play the game without waiting for the final part next week.

As I mentioned in the first article, it is a good idea to get a friend to type in lines 800-900. These are the lines which tell you how to do it and it will spoil the game for you if you read them.

You have several commands to use:

Examine
Look
Go
N,S,E and W
Shoot
Get
Drop

This is the way the screen presents the information:

HALLOWEEN

You are in a
dusty room

VISIBLE EXITS N E

You can see
TIN
PAINTING

What now
?

You would then enter your command, such as EXAMINE TIN or, if you want to go north, type N.

Variables

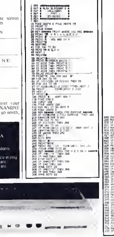
I, J and R FOR loops
R$ N,E,S and W DATA
A$ all inputs
NM$ your command
Q$ and E$ temporary stores
F(1 to 10) flags
C(1 to 10) what you are carrying
I(1 to 20) where things are
I$(1 to 20) what things are
NO number of items
RO room you are in

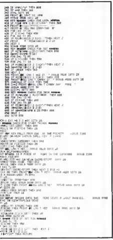
How it works

20-135 print information
200-300 check for examine
300-400 check for N,E,S or W
500-600 check for get
600-700 check for drop
800-960 check for other commands
9000-9070 print: "I don't understand"
9300-9349 press a key
10000-10070 print: "Well done" etc
40000-40280 initialise

Hints on conversion

This program should easily convert to any micro. The special commands for the VIC are:
POKE 36879,X change screen colour
POKE 36878,X volume
POKE 36874 to 36877 sound channels
POKE 198,0 clear keyboard buffer
SYS 64802 reset computer





```
350 NEXT I
360 PRINT "[illegible] CAN T    [illegible]
5000 REM ****** DON T UNDERSTAND ******
5010 PRINT "[illegible] DON T KNOW HOW TO    "W$
5020 FOR I=1 TO 3
5030 FOR J=178 [illegible] ,10
5040 POKE 36876,J:POKE 36877[illegible]
5050 NEXT J,I
5060 POKE 36876,0:POKE 36877,0
5070 RETURN
5100 REM ****** PRESS A KEY ******
5110 POKE 198,0
5120 PRINT "    PRESS ANY KEY    "
5130 GET A$:IF A$="" THEN 5130
5140 RETURN
10000 REM ****** NEXT PART ******
10010 PRINT "   WELL DONE
10020 PRINT "YOU HAVE GOT TO THE    [illegible]
10025 PRINT "[illegible]
10030 PRINT "[illegible] LOAD THE LAST    PART OF HALLOWEEN "
10040 FOR I=1 TO [illegible]
10050 POKE [illegible]:NEXT I
10060 POKE 36879,[illegible]
10070 [illegible]
40000 REM ****** INITIALISE ******
40010 DIM F [illegible]
40015 DIM I [illegible]
40020 [illegible]
40100 REM ****** DATA FOR ROOMS ******
```

```
40115 DATA DINING ROOM 0 3 4 1
40120 DATA STORE ROOM 0 0 0 [illegible]
40125 DATA LARGE ROOM [illegible]
40130 DATA PLAY ROOM 0 0 7 4
40135 DATA BED ROOM 0 7 0 0
40140 DATA DARK ROOM 0 0 0 6
40145 DATA [illegible]
40150 DATA PASSAGE [illegible]
40170 REM ****** END OF DATA ******
40180 [illegible]
40200 REM ****** GET VARIABLES OR ITEMS ******
40205 [illegible] THEN 40150
40210 FOR I=1 TO NO
40220 READ [illegible]
40225 NEXT I
40230 RETURN
40240 DATA 1 ICONS/OLD AND   [illegible] 1 [illegible]/BROKEN
40245 DATA 2 SUIT OF ARMOUR/RUSTY 2 [illegible] A    TALL
40250 DATA 3 [illegible]/FULL OF    [illegible] 3 [illegible]/VERY OLD
40255 DATA 4 STABLE [illegible]
40260 DATA 6 [illegible]
40265 DATA 7 CUPBOARDS/LOCKED   [illegible]
40270 DATA 9 [illegible] DUSTY 9 [illegible] THE WAY 8 [illegible] ARE [illegible]
[illegible]
```

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The prizes

Rabbit Software will choose a selection of tapes worth about £40 for each of the 25 winners

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Critters
Cyclons
Race Fun
Centropods
Frogger

If you've got a Spectrum your prizes will be from this list

The Birds Potty Painter in the Jungle
Lancer Lords
Escape MCP
Centropods
Frogger
Paratroopers
Race Fun
Quackers

And users of the Commodore 64 will receive a selection of these titles

Murder
Paratroopers
Cyclons
Centropods
Graphics Editor
Escape MCP
Annihilator

How to enter

Look carefully at the two cartoons below drawn for us by Chris Adam Smith

There are a number of differences between the two Circle the differences on the right-hand cartoon and then fill in your name full address and the make of your computer

Then cut around the broken lines seal the drawing with coupon attached in an envelope — and write clearly on the back of the envelope the number of differences you found

Post your entry to Rabbit Competition Home Computing Weekly 145 Charing Cross Road London WC2H 0EE

Entries close at first post on October 21 The winners will be the first 25 correct entries opened regardless of computer at noon on that day

Copies of the coupon will not be accepted The solution and the names of the winners will be published in the news columns of Home Computing Weekly and the prizes will arrive from Rabbit within 28 days of the publication date of that issue

The small print

The first 25 correct entries drawn at noon Friday October 21 1983 will win the prizes Coupons which are not fully completed and envelopes without the number of differences found on the back will not be considered

Entries will not be accepted from employees of Argus Specialist Publications Rabbit Software and Alabaster Passmore & Sons This restriction also applies to employees families and agents of the companies

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Computer ____________________

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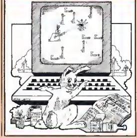
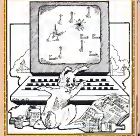




This week's Spectrum of games . . .

. . . includes some of and new ideas in software. Are they good ideas? This is what our reviewers thought

Jumping Jack
£5.50

Imagine, Masons Buildings,
Exchange St, East Liverpool

Many reviews tell you that certain games are addictive, but I'd given up all hope of finding one until I met Jumping Jack!

Eight moving platforms stretch across the screen at various levels. As the levels move they reveal large gaps, through which Jack can jump, to reach the top of the screen or fall and lie with stars circling his head.

If you try jumping when there isn't a gap, the result is much the same.

Each time you reach the top, you start on a new screen of platforms, but not only are there more gaps, you are chased by an amazing assortment of animated objects: trains, axes and a flying witch to name but three!

Each time you complete a screen, you are also rewarded with two lines of a poem, which according to the blurb, is forty lines long, so there's plenty to keep you at it.

The program is very well executed with genuinely animated graphics, including Jack himself. He falls, jumps, runs and lies stunned with great realism. And it's very amusing to watch him run across the screen pursued by a train (though it won't do much for your score)!

Perhaps the addictive element is that the game appears to be so simple, you feel just one more go will give you that ace unbeatable score.

D.M.

instructions	100%
playability	100%
graphics	95%
value for money	95%

★ ★ ★ ★ ★

Ant Attack
48K £4.95

Macronics, 26 Spiers Close,
Knowle, Solihull B93 9ES

Macronics were the people who brought moving graphics to the ZX80 so we have come to expect good things from them. This program boasts another first — voice controlled firing.

The voice command really works very well provided you follow the instructions. In fact firing occurred if anything was said, even across the room.

You are dreaming of the ants you have destroyed today in the garden, but in your nightmare you are reduced to their size and must fight the battle anew.

Swarms of magenta ants race down the screen. You must dodge around the green obstacles and destroy the ants before they destroy you (you have three lives). If hit, the ants become obstacles themselves.

The game is rapid and staged, and there are some surprises — so watch out.

Sound is reminiscent of bird song, but at least it's not tedious. Use of colour is fair.

Potting ants is not as fun as hitting bigger things, and it may be that the brilliance of this program has been applied to the wrong format. Even so it is well set up and good fun.

P.C.

instructions	85%
playability	85%
graphics	90%
value for money	85%

★ ★ ★ ★ ★

Galactic Jailbreak
£4.90

Apocalypse Software, 5-7 Stert
Street, Abingdon, Oxon

Galactic Jailbreak is a worthy attempt at dragging new life from the Space Invaders concept. As in Invaders, you must shoot down the aliens whilst avoiding their fire, but the similarities end there.

The aliens fly along the screen towards a centrally placed jail where three of their compatriots are captured. They then remove the blocks that make up the prison, and when a route has been cleared a captive can be liberated, in which case you lose a life.

Although the game is not particularly fast except when only a few aliens remain, it is surprisingly difficult. The keys are well chosen and the response quick or you can use the AGF or Fuller joysticks. The graphics are smooth but uninspiring.

Galactic Jailbreak is accompanied by "Snake" in which, yes, you've guessed it, you are in control of a gradually extending snake and must avoid turning back on yourself or bumping into the surround.

Points are gained by running into diamond shaped blobs that appear and degenerate rapidly, and you must avoid the other obstacles.

Although Snake becomes challenging on the harder levels I didn't enjoy it much. Galactic Jailbreak is more interesting but below the standard set by some other Spectrum games.

S.E.

instructions	25%
playability	55%
graphics	50%
value for money	68%

★ ★ ★

Gun Law
£5.95

Vortex, 280 Brooklands Road,
Manchester M23 9HD

Relive the excitement of the Wild West in this slick action game!

You're a Marshall aiming to send those mean gunslingers, the 'James Gang', to Boot Hill. As you stalk the outlaws in the dusty street, you can swing left or right to fire at shady figures in doorways and windows. You have to draw fast — they won't give you a second chance. Kill a bad guy and you collect a fistful of dollars, plug an innocent man and you've wasted a precious bullet.

I found some of the instructions rather confusing and the control keys a bit awkward at first. Since the game demands lightning reflexes, it's better played with a joystick.

The screen display is generally imaginative and helps conjure the right atmosphere as does the sound. At times the graphics are rather indistinct: for example, the gun sight is difficult to see on some backgrounds.

Gun Law is an absorbing game and there's a high bounty feature to make it more compelling. Next time you mosey on down to the software store, give Gun Law a spin.

C.C.

instructions	50%
playability	70%
graphics	50%
value for money	60%

★ ★ ★

Alien Insects
48K £4.95

Macronics, 26 Spiers Close,
Knowle, Solihull B93 9ES

Macronics are doing their best to rid our world of micro pests — first ants, now invading insects. The outstanding feature in this game is the sound, which exploits the Spectrum's ability very fully. The graphics aren't bad, either.

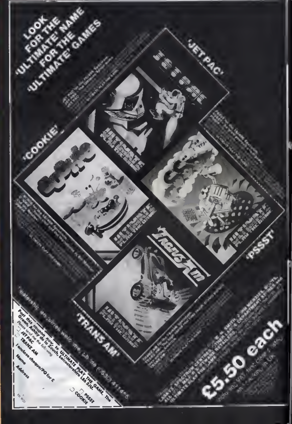
You must jet about space with your back pack and laser gun doing away with the advancing insects. They must be hit in the head to disintegrate. They come in increasing numbers and ever faster. If you are very successful a box like terror appears that is most difficult to evade.

The presentation is excellent — there are one or two new variations in the use of colour, particularly in the Hall of Fame and instruction sequences. In the latter the rippling colour is actually a nuisance but you can stop it if you like. This is a good game.

P.C.

instructions	80%
playability	90%
graphics	90%
value for money	90%

★ ★ ★ ★ ★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Can you bomb your way to safety?

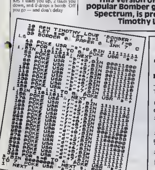
This version of the ever-popular Bomber game, for any Spectrum, is presented by Timothy Lowe

As the building of the city beneath you loom ever nearer, your fuel gauge shows that there's no time to lose. If you don't bring your plane in to land soon, you'll come down to earth with a fatal crash as your fuel runs out.

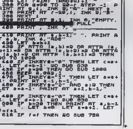
Your only hope is to fly across the city, using your bombs to clear a runway to land on. Key 1 takes you up, 2 takes you down, and 0 drops a bomb. Off you go — and don't delay

How it works
10-320 set up UDG characters
330-410 set up screen display
430 check for crash
440-490 check keyboard for entries
500 reset plane position
510-520 fuel variable examined
530-680 bomb drop routine
750-780 decrease fuel meter
790-1030 end game routines

Variables
a,b height and position
c,d bomb position
f fuel meter
r sets height of buildings



```
10 REM TIMOTHY LOWE 'BOMBER'
20 LET a=0: LET b=1: LET f=0
30 BORDER 0: PAPER 0: INK 7: C
LS
40 POKE USR "a"+0,BIN 11111111
50 FOR i=1 TO 6: POKE USR "a"+
i,BIN 11011011: NEXT i
60 POKE USR "b"+0,BIN 00011000
70 POKE USR "b"+1,BIN 00011000
80 POKE USR "b"+2,BIN 00111100
90 POKE USR "b"+3,BIN 00111100
100 POKE USR "b"+4,BIN 01111110
110 POKE USR "b"+5,BIN 01111110
120 POKE USR "b"+6,BIN 01111110
130 POKE USR "b"+7,BIN 11111111
140 POKE USR "a"+7,BIN 11111111
150 FOR i=1 TO 6: POKE USR "a"+
i,BIN 11011011: NEXT i
160 POKE USR "f"+0,BIN 11111111
170 POKE USR "f"+1,BIN 11111111
180 POKE USR "f"+2,BIN 00111100
190 POKE USR "f"+3,BIN 01111110
200 POKE USR "f"+4,BIN 11111111
210 POKE USR "f"+5,BIN 01111111
220 POKE USR "f"+6,BIN 00111110
230 POKE USR "f"+7,BIN 00011000
240 POKE USR "d"+0,BIN 11000000
250 POKE USR "d"+1,BIN 11000000
260 POKE USR "d"+2,BIN 11110000
270 POKE USR "d"+3,BIN 11111000
280 POKE USR "d"+4,BIN 11111111
290 POKE USR "d"+5,BIN 11111111
300 POKE USR "d"+6,BIN 11111111
310 POKE USR "d"+7,BIN 11111111
320 FOR a=0 TO 4: POKE USR "a"+
a,BIN 00000000: NEXT a: FOR i=0
TO 7: POKE USR "a"+i,BIN 1111111
1: NEXT i
```



```
330 REM SCREEN DISPLAY
340 FOR i=0 TO 31
350 LET r=INT (RND*6)+1
360 FOR a=20 TO 20-r STEP -1: P
RINT AT a,i; INK 2;"A": NEXT a
370 PRINT AT r-20,i; INK 2;"B"
380 NEXT i
390 PRINT AT 0,1; INK 6;"EMPTY.
[redacted] FULL"
400 PRINT ; INK 7;"____________
"
410 PRINT AT a,b-1;" ": PRINT A
T a,b; INK 4;"ADE"
420 LET b=b+1
430 IF ATTR (a,b)=2 OR ATTR (a,
b+1)=2 OR ATTR (a,b+2)=2 OR ATTR
 (a,b)=2 OR ATTP (a,b+1)=2 THEN
GO TO 1020
440 IF INKEY$="0" THEN LET c=a+
1: LET d=b-1: GO SUB 530
450 IF a=20 THEN GO SUB 1000
460 BEEP 0.002,1
470 IF INKEY$="1" THEN LET a=a+
1: PRINT AT a-1,b-1;"   "
480 IF INKEY$="2" AND a>2 THEN
LET a=a-1: PRINT AT a+1,b-1;"
"
490 IF INKEY$="0" THEN LET c=a+
1: LET d=b-1: GO SUB 530
500 IF b=30 THEN PRINT AT a,b-1
;"  ": LET b=0: LET a=a+1: LET
f=f+1
510 IF f=f THEN GO SUB 750
```

SPECTRUM PROGRAM

```
 520 GO TO 410
 530 REM BOMB-DROP
 540 LET r=INT (RND*7)+5
 550 PRINT AT c-1,d;" ": PRINT A
T c,d; INK 7;"F"
 560 PRINT AT a,b-1;" ": PRINT A
T a,b; INK 4;"ADE"
 570 IF b=30 THEN PRINT AT a,b;"
   ": LET a=a+1: LET b=0: LET f=
f+1
 580 IF c>1 THEN LET c=c+1
 590 LET b=b+1
 600 IF ATTR (a,b)=2 OR ATTR (a,
b+1)=2 OR ATTR (a,b+2)=2 THEN PR
INT AT a,b;"ADE": GO TO 1020
 610 BEEP 0.002,10
 620 IF a=20 THEN GO TO 1000
 630 IF INKEY$="1" THEN LET a=a+
1: PRINT AT a-1,b-1;" "
 640 IF INKEY$="2" AND a>2 THEN
LET a=a-1: PRINT AT a+1,b-1;"
"
 650 IF ATTR (c+1,d)=2 THEN LET
r=r-1
 660 IF r=0 THEN   PRINT AT c-1,
d;" ": RETURN
 670 IF c=21 THEN PRINT AT c-1,d
;" ": RETURN
 680 GO TO 550
 750 LET s=f
 760 IF s=20 THEN GO SUB 800
 770 PRINT AT 0,28-s;" "
 780 RETURN
 790 FOR i=0 TO -20: BEEP 0.01,i
: NEXT i
 800 PRINT AT 6,3;"FUEL TANKS EM
PTY";AT 10,5; INK 7;"ANOTHER GAM
E [Y/N]": INPUT a$: IF a$="n" TH
EN STOP
 810 GO TO 1
1000 PRINT AT 6,3;"WELL DONE YOU
 LANDED": FOR i=-10 TO 10: BEEP
0.05,i: NEXT i: INK 7: PRINT AT
10,5;"ANOTHER GAME [Y/N]": INPUT
 a$: IF a$="n" THEN STOP
1010 GO TO 1
1020 PRINT AT 8,1;"YOU CRASHED I
NTO THE BUILDINGS": FOR i=20 TO
-20 STEP -1: BEEP 0.05,i: NEXT i
: PRINT AT 10,5; INK 7;"ANOTHER
GAME [Y/N]": INPUT a$: IF a$="n"
 THEN STOP
1030 GO TO 1
```

★ ★ ★ ★ ★ ORIC SOFTWARE ★ ★ ★ ★ ★

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Revealed: the hidden mode for more colourful programs

Just one simple POKE and the Commodore 64 allows four background colours, not one. Mike Roberts explains and asks: Why didn't Commodore mention it?

The Commodore 64 has four text modes of operation. According to the Commodore manual there is only one that the BASIC and operating system will support.

This is not so. With one simple POKE the Commodore 64 is put into "Extended Background Mode".

This allows four different background colours instead of the original one. The instruction to enable extended background mode is

POKE 53265, (PEEK(53265) 0R2 ↑6)

And to get back to normal text mode

POKE 53265, PEEK (53265) AND (255-(2 ↑6))

There is (of course) one small snag. Only 64 characters may be displayed and they are the ones with POKE codes of 0 to 63 on pages 132 and 133 of the Commodore 64 user manual.

This is because the normal character set is based on eight bits, so there are 256 different characters. For an explanation of bits etc. look in the user manual from page 76 onwards.

So the new character set has six bits for the character and two bits for the background colour. This means there are 64 characters available and four different colours.

How it works

110 set extended background colour mode
130 set background colour 0
140 set background colour 1
150 set background colour 2
160 set background colour 3
190-220 display character set on screen in 16 colours
230-260 increment the four colour registers
280 delay loop
290 loop round to cycle through colours

Each of the four colours can be any of the 16 available normally to the ordinary mode. Foreground colours are not affected.

The new character set is composed of four blocks of the same 64 characters and each block has a different background colour, so to print an A with background colour 0 you would just PRINT a normal A, to print an A in background colour 1 you would PRINT a shift A, to print an A in background colour 2 you would PRINT a reverse field A, and to print an A in background colour 3 you would PRINT a shifted reverse field A, and this applies to all of the first 64 characters in the character set.

The colour of each of the background colours is set by POKEing one of four registers, one for each background colour. These POKE locations are given below

background colour 0

POKE 53281, X

background colour 1

POKE 53282, X

background colour 2

POKE 53283, X

background colour 3

POKE 53284, X

X would be any number between 0 and 15 to define a colour in the normal way.

The program demonstrates the use of this technique, and will cycle through all the colours and background colours.

Overall the advantage of this mode is its similarity to the normal mode of the Commodore 64 at start up and programs can still be listed, edited and written, and the mode really comes into operation when something is being printed on the screen under program control.

Have fun with this mode, but ask yourself: Why didn't Commodore tell anyone about it?

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Meet the extra-terrestrial terrorists

As the film poster says, not all extra-terrestrials are friendly. The ones in these games certainly aren't.

The Last Jedi 48K Spectrum £4

Amazing Games, 39 Maple Drive, Burgess Hill, West Sussex RH15 8EX

A 48K text adventure complete with six page manual for only £4 has to be a good buy! I had some problems loading the title page: the recording seems to have a peculiar gap between the header and program. Access to the loader allowed loading to continue, and revealed the program to be in BASIC.

The graphic design of the title page and instructions are super though accompanied by an excruciatingly out of tune rendition of the Star Wars theme.

As the last Jedi, your mission is to seek out and kill the Emperor in the caverns of the Sith Lords armed only with psi Power and your light sabre when you can find it!

Not only can you take, open and kill things but using psi Power you can will people to sleep. Very handy when you encounter the odd stormtrooper or two blocking your way!

The game responds quickly to your typed commands and must be complicated enough for the most dedicated adventure fanatic (I can't even find the light sabre!)

Excellent value with hours of intrigue, just two things mar this product: the loading problem and some rather quaint spelling mistakes.

D.M.

instructions	100%
playability	95%
graphics	n/a
value for money	100%

★ ★ ★ ★ ★

Rocket Raiders Spectrum £5.59

C Tech Computer Software, 184 Market Street, Hyde, Cheshire

Rocket Raiders is a familiar type of game for one or two players.

You visit a rugged planet to destroy the hostile mutants.

Their ship has three fighters with rockets and bombs, and limited fuel which can be replenished from the surface.

The mutants have rockets, drifting space mines and the mountainous terrain to protect them.

The cassette loaded first time, with brief but adequate instructions. The well-chosen key controls are also listed on the insert.

The display shows an elevation of a section of the planet surface with all the targets and hazards visible.

At the top a larger area is shown with fuel and fighters remaining.

Response is immediate and realistic, but the lack of difficulty levels means the game could soon become dull. A competent but not outstanding game. H.C.

instructions	60%
playability	80%
graphics	70%
value for money	60%

★ ★

Alien Dropout BBC Model B £7.95

Superior Software, 69 Leeds Road, Bramhope, Leeds

Computer aliens come in all shapes and sizes, usually more nastier than the last. In this game they are very pretty — but deadly.

A large moth flutters top centre screen dropping vertical bombs. Each side of it are five boxes which gradually fill with small moths; when full, a moth is released to dive and bomb your laser which you control by Z and X with 'copy' to fire.

If you destroy 200 of these then mummy moth, usually indestructable, attacks and also becomes vulnerable. For arcade addicts, this is a version of Zygon, very fast and true to the original.

Instructions are supplied on screen, if required, with an option to start at any of the six difficulty levels.

The cassette is simply printed — this company does not go for glossy, exaggerated advertising either — yet this game is as good as any on the market.

The Beeb's features are all well used — graphics, colour and sound — in fact these moths are decidedly noisy.

I tried my idiot act (easy for me!) but failed to crash it or discover any bugs — apart from the moths. A hall of fame chart is included for the highest scores, also a joystick option. R.E.

instructions	93%
playability	89%
graphics	91%
value for money	96%

★ ★ ★ ★

Arena III TI-99/4A (Extended BASIC) £8

Lizard Games, 14 Bridgewood, Brookside, Telford, Shropshire TF3 1LX

Arena III is three games in one. All are set in outer space with action that mimics the arcade favourites. The top of the screen throughout displays totals for shots used, lives lost and score.

The first game is set in deep space. Using the keyboard to rotate your spacecraft and fire, you attempt to zap as many of the meandering alien ships that cross your path before one ultimately crashes into you, hence starting the next game.

This time you control a rocket which passes over the hilly terrain of a planet where, by dropping bombs, a landing strip must be cleared. Each time you crash into hillside one life is lost and your rocket thrust up to a safer bombing distance. Once a safe touch down is achieved the final game begins.

To the right of the screen appears a spaceship from which descends an astronaut. He must be guided down to the planet surface where he plants a flag, then back up to the ship, avoiding passing asteroids on his way. If he collides a life is lost and you start the descent again.

At the end of a run the title screen reappears. No reminder of your progress is given or a best so far. J.W.

instructions	70%
playability	70%
graphics	60%
value for money	

★ ★ ★

Kamizaze Spectrum 48K £6.90

A & F Software, 830 Hyde Road, Manchester M18 7JD

This multi wave invaders/galaxians derivative in which you control a laser base to shoot down the swooping nasties (sound familiar?) has a glaring defect.

Symbol shift is used as the fire button, and yet if you accidentally hit the space key (adjacent to the symbol shift) the game terminates and you are presented with the operating instructions.

I felt like putting my foot through the screen when this first happened and unfortunately it happened quite frequently with other players too.

This mars an otherwise excellent game, with good playing rhythm and lots of excitement. However it should be relatively simple to correct.

Apart from the keyboard problem, this offering compares favourably with any game you would find in an amusement arcade. M.B.

instructions	60%
playability	95%
graphics	90%
value for money	90%

★ ★ ★ ★ ★

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Can you escape from the alien trap?

The ship's about to blow up and your air's running out and there's a hostile alien breathing down your neck — now get out of that, in Marc Freebury's frantic game for either Atari

It was too late. Zipphe could no longer stop the computer from blowing the ship to hell in a few minutes. Escape to the shuttle was the only answer but past the alien?

As the engines cycled towards a fusion reaction, she dashed from room to room through the madly opening and closing doors. Her spacesuit held air enough to make it to the shuttle hatchway — she hoped. And always lurking somewhere was the alien searching for its final victim.

In this game, you play Zipphe, attempting to reach the safety of the shuttle. You begin in the top left corner of the room grid. By moving through the doors when they open, you must reach the bottom right corner where the escape hatch is located.

The alien begins at the hatch and will attempt to intercept you. If it enters your current room you die.

You also die if your air runs out — it is shown by a bar at the bottom of the screen. The escape hatch acts like any other door and thus may trap you at the last.

The alien is logical in its approach, and the risks of running close and fast, or staying far and cautious must be carefully weighed.

The SOUND option allows for an audible tracer to be attached to both Zipphe and the alien. It will generate a different note according to which room each is in. I found the game was harder without the tracers, as it is difficult to watch both the alien and the doors simultaneously.

The difficulty option varies the number of doors opened/closed at one time. A higher difficulty means fewer doors and this loses precious time and air.

Hints on conversion

It is possible with a little work to convert this game for most micros.

In general, if you don't have a command shown here, leave it out. Some must be replaced with your own equivalents.

SOUND replace or leave out
LOCATE return colour value of co-ordinate X,Y in variable Z
COLOR color 0 is background. COLOR 1,2,3 should be replaced
STICK,STRIG STICK returns the current joystick position. This can easily be converted to keyboard. STRIG returns 1 if the joystick button is pressed, 0 if not
SETCOLOR determines the actual colours represented by COLOR 1,2,3. This should be left out
GRAPHICS 0 indicates normal text screen — a sort of CLS. The one on line 390 is a 4 colour graphics mode, 80 horizontal by 48 vertical, with the origin in the top left corner
PLOT,DRAWTO PLOT is plot the current COLOR at X,Y. DRAWTO is plot a line form the last co-ordinates plotted to X,Y in the current colour

How it works

100-280 front page routines
290-380 options page. Uses the three Atari keys OPTION,SELECT,START
390-470 draw the board
480-510 initialise all variables
520-570 move player
580-650 move alien
660-740 open and close doors
750-860 end of game
870-1000 'successful run' routine
1010-1020 data to write big letters on front page

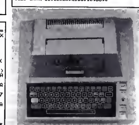
```
160 DIM A$(40):SND=1:DIFF=5
170 GRAPHICS 3:SETCOLOR 2,0,0:SETCOLOR 4
,0,0
180 RESTORE 1010:COLOR 1:FLAG=0
190 FOR I=1 TO 22:READ X,Y
200 IF X<40 THEN DRAWTO X,Y
210 IF X>=40 THEN PLOT X-40,Y
220 NEXT I
230 FOR I=0 TO 3:SOUND I,0,0,0:NEXT I
240 POKE 752,1:? CHR$(125):? "         (c)
1983 MARC FREEBURY.":? "         PRESS BUT
TON TO BEGIN",
250 FOR I=250 TO 5 STEP -1:FOR J=0 TO 3:
SOUND J,I+J,10,0:FOR K=1 TO 20:NEXT K:NE
XT J:FOR K=1 TO 20:NEXT K
260 POKE 708,(PEEK(708)=255)+(PEEK(708)<
>255)*PEEK(708)+1
270 IF STRIG(0)=0 THEN I=0:FLAG=1
280 NEXT I:IF FLAG=0 THEN 250
290 FOR I=0 TO 3:SOUND I,0,0,0:NEXT I
300 GRAPHICS 18:POSITION 3,0:? #6,"selec
t":POSITION 0,2:? #6," DIFFICULTY(1-5)":
DIFF=6-DIFF:REM 'SELECT' INVERSE
310 POSITION 3,4:? #6,"option":POSITION
0,6:? #6," SOUND":REM 'OPTION' IS INVERS
E.
320 POSITION 3,8:? #6,"start TO BEGIN":R
EM 'START' IS INVERSE
330 POSITION 19,2:? #6,DIFF:IF SND=1 THE
N POSITION 17,6:? #6," ON"
340 IF SND=0 THEN POSITION 17,6:? #6,"OF
F"
350 FOR I=1 TO 80:NEXT I
360 IF A=5 THEN DIFF=DIFF+1:IF DIFF>5 TH
EN DIFF=1
370 A=PEEK(53279):IF A=3 THEN SND=(SND=0
)
380 IF A<>6 THEN 330
390 GRAPHICS 21:POKE 708,0:COLOR 1
400 FOR I=0 TO 42 STEP 6:PLOT 0,I:DRAWTO
 78,I:NEXT I
410 FOR I=0 TO 78 STEP 6:PLOT I,0:DRAWTO
 I,42:NEXT I
420 PLOT 3,47:DRAWTO 3,44:DRAWTO 6,44:DR
AWTO 6,47:PLOT 3,46:DRAWTO 6,46
430 PLOT 8,44:DRAWTO 12,44:PLOT 10,44:DR
AWTO 10,47:PLOT 8,47:DRAWTO 12,47
440 PLOT 14,47:DRAWTO 14,44:DRAWTO 16,44
:DRAWTO 16,45:DRAWTO 14,46:PLOT 16,47
450 POKE 710,255:COLOR 3:PLOT 20,45:DRAW
TO 50,45:PLOT 20,46:DRAWTO 50,46
460 COLOR 1:PLOT 19,44:DRAWTO 19,47:PLOT
 51,44:DRAWTO 51,47
470 FOR I=15 TO 0 STEP -1:FOR J=0 TO 3:S
OUND J,J*11,8,1:NEXT J:POKE 708,64+(15-I
):NEXT I
480 REM *** VARIABLE INITIALISATION ***
490 X=3:Y=3:COLOR 2:PLOT X,Y
500 MX=75:MY=39:COLOR 3:PLOT MX,MY
510 AIR=51:POKE 19,0:DIFF=6-DIFF
520 REM *** MOVE MAN ***
530 A=STICK(0):IF A=15 THEN 590
540 XVEC=(A=7)*3-(A=11)*3:YVEC=(A=13)*3-
(A=14)*3:LOCATE XVEC+X,YVEC+Y,CHAR
550 IF CHAR<>0 THEN 590
560 COLOR 0:PLOT X,Y:X=X+XVEC*2:Y=Y+YVEC
*2:IF X>78 THEN 810
570 COLOR 2:PLOT X,Y:SOUND 0,Y*2+X*2,10,
SND*8
```

```
580 REM *** MOVE MONSTER ***
590 MXVEC=SGN(X-MX):MYVEC=SGN(Y-MY):STOR
E=0
600 LOCATE MX+MXVEC*3,MY+MYVEC*3,CHAR:IF
 CHAR=0 THEN 640
610 IF MXVEC<>0 THEN MXVEC=0:GOTO 600
620 MXVEC=SGN(X-MX):IF MYVEC<>0 THEN MYV
EC=0:GOTO 600
630 GOTO 670
```

```
640 COLOR 0:PLOT MX,MY:MX=MX+MXVEC*6:MY=
MY+MYVEC*6:COLOR 3:PLOT MX,MY:SOUND 1,MX
*2+MY*2,10,SND*8
650 IF MX=X AND MY=Y THEN 770
660 REM *** OPEN/CLOSE THE DOORS ***
670 FOR I=1 TO INT(RND(1)*5)+DIFF
680 DOOR=RND(1):IF DOOR<0.5 THEN DX=INT(
RND(1)*13)*6+3:DY=INT(RND(1)*6+1)*6
690 IF DOOR>0.5 THEN DX=INT(RND(1)*12+1)
*6:DY=INT(RND(1)*6)*6+3:LOCATE DX,DY,CHA
R
700 COLOR (CHAR=0):TONE=(CHAR=1)*50+(CHA
R=0)*250:PLOT DX,DY:NEXT I
710 DOOR=RND(1):COLOR (DOOR>0.75):PLOT 7
8,39
720 IF PEEK(19)=1 THEN POKE 19,0:AIR=AIR
-1:COLOR 0:PLOT AIR,45:PLOT AIR,46
730 IF AIR=20 THEN 790
740 GOTO 530
750 REM *** ENDGAME.THREE ENTRY POINTS *
**
760 REM *** NO.1 ***
770 A$=" EATEN  !!! ":GOTO 820
780 REM *** NO.2 ***
```

```
790 A$=" OUT OF AIR!":GOTO 820
800 REM *** NO.3 ***
810 A$="YOU ESCAPED!"
820 FOR I=0 TO 3:SOUND I,0,0,0:NEXT I
830 GRAPHICS 2:SETCOLOR 2,0,0:SETCOLOR 4
,0,0
840 FOR I=1 TO LEN(A$):SOUND 0,10,12,8:P
OSITION 4+I,7:? #6,A$(I,I);:FOR J=1 TO 3
0:NEXT J:SOUND 0,0,0,0
850 NEXT I:FOR I=1 TO 500:NEXT I
860 IF A$(1,1)<>"Y" THEN 170
870 REM *** 'MADE IT' ROUTINE ***
880 A=PEEK(106)-16:POKE 54279,A:A=A*256:
POKE 559,62:POKE 53277,3
890 POKE 53248,0:A=A+1024:FOR I=0 TO 255
:POKE I+A,0:NEXT I
900 A=A+100:RESTORE 1000
910 FOR I=0 TO 5:READ B:POKE A+I,B:NEXT
I:POKE 704,90
920 FOR I=0 TO 3:SOUND I,I*11,0,12:NEXT
I
930 FOR I=40 TO 220:POKE 53248,I:FOR J=1
 TO (11-I/20)/2:NEXT J
940 NEXT I
950 POSITION 4,0:? #6;"SELF DESTRUCT":FO
R I=1 TO 200:NEXT I
960 FOR I=0 TO 15:POKE 710,I:POKE 712,I:
POKE 708,I:FOR J=0 TO 3:SOUND J,I*16,4,I
:NEXT J:NEXT I
970 FOR I=1 TO 20:NEXT I
980 FOR I=14 TO 0 STEP -1:FOR J=0 TO 3:S
OUND J,I*11,0,I:NEXT J:FOR J=1 TO 50:NEX
```

```
T J:NEXT I
990 FOR I=1 TO 1000:NEXT I:GOTO 170
1000 DATA 128,192,224,252,254,255
1010 DATA 40,10,8,10,4,6,8,10,8,10,47,14
,1,14,50,6,10,10,16,10,50,6,10,10,66,6,2
0,6,20,10,26,10,60,12,26,12
1020 DATA 60,10,28,6,35,10,35,6
```



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DRAGON PROGRAM

Guns at the ready — the bombers are coming

Vital oil supplies are at stake in A. E. Standing's action game for the Dragon-32. Your job: to save the oil rig from the enemy

Towering out of the North Sea the Echo oil rig is a prime target for sneak attacks by enemy bombers

In this game your job is to fight the bombers off by controlling a shore based battery of anti-aircraft guns

The enemy bombers attack individually at varying heights. They have the ability to detect your fire and take avoiding action but have only a limited flight duration

If you manage to prevent Echo from being completely destroyed in the allotted time the game is over and you are asked if you wish to play again

A running total is displayed of shots fired actual hits and time remaining

The instructions are included in the titles, and are self explanatory

How it works

10-50 screen titles, press a key, and speed-up poke

60 clears screen and goes to routine which introduces start of game

70 clears screen, sets timer, shots and hits and score to zero and prints the sea along the bottom of screen

80-90 pokes Echo oil rig on to screen and prints cloud base

100 randomises start position of enemy aircraft

110 pokes guns onto screen, defines bombing position, pokes "Ack-ack" on to screen

120 pokes aircraft on to screen and moves to left one square at a time. Decreases time by one unit

130-170 gosub drop bombs routines

180 randomises position of aircraft before it runs into cloud base

190-210 defines fire guns buttons and gosubs to fire guns routines

220-240 prints out remaining screen details and goes to end of game if out of time

250-300 start of game subroutine referred to in 60

310-480 fire guns, detect hits, manoeuvre aircraft away from shells, increment shots and hits totals. If a hit, repositions aircraft to the right of screen in any of the eight places

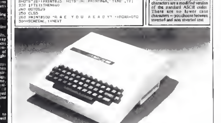
490-830 (five subroutines): Drops bombs, pokes explosion when bombs hit target, prevents aircraft crashing into oil rig, keeps decrementing time, moves aircraft, resets positions of bombs, detects if oil rig is completely destroyed and if so goes to end of game routine

840-910 end of game routines

Note: It may be necessary to delete line 30 if your machine will not accept the speed-up poke.

Poke 337,191 enables two keys to function at the same time.

```
10 CLS5:PRINT@96 "S E A S T R I K E  BY AESTANDING
 ":PRINT@226 "#PRESS A KEY FOR INSTRUCTIONS  ":SCRE
EN0,1
20 A$=INKEY$:IFA$="" THEN20
30 POKE65495,0
40 CLS5:PRINT@5 "I N S T R U C T I O N S ":PRINT@3
7, "=======================":PRINT@131 "USE KEYS
Z,N,M TO FIRE":PRINT@64 "SHOOT DOWN ALL ENEMY AI
RCRAFT  BEFORE THEY DESTROY ECHO OIL RIG ":PRINT@
357, "press a key to start ";:SCREEN0,1:POKE1118,3:
50 A$=INKEY$:IFA$="" THEN50
60 CLS:GOSUB250
70 CLS:TI=TIMER:TI=400:S=0:H=0:FORG=480TO504:PRINT
@G CHR$(175);:NEXT
80 POKE1442,5:POKE1443,3:POKE1444,8:POKE1445,15:PO
KE1474,138:POKE1475,138:POKE1476,88:POKE1477,133:P
OKE1506,138:POKE1507,88:POKE1508,88:POKE1509,133
90 FORF=32TO63:PRINT@F,CHR$(207);:NEXT:POKE1347,11
1:POKE1378,46:POKE1411,46:POKE1413,140:POKE337,191
100 B=(RND(7)*32)+1119
110 POKE1503,13:POKE1500,14:POKE1497,26:Y=1125:W=1
188:X=1184:Z=1251:V=1318:POKE1529,1:POKE1530,3:POK
E1531,11:POKE1532,45:POKE1533,1:POKE1534,3:POKE153
5,11
120 B=B-1:POKEB,95:POKE(B+1),96:TI=TI-1
130 IFPEEK(1188)=95THENGOSUB630
140 IFPEEK(1154)=95THENGOSUB700
150 IFPEEK(1251)=95THENGOSUB560
160 IFPEEK(1350)=95THENGOSUB490
170 IFPEEK(1125)=95THENGOSUB770
180 IFB<1089THENGOSUB900
190 M=PEEK(343):IFM=247ANDB<1343THENGOSUB310
200 M=PEEK(344):IFM=247ANDB>1125THENGOSUB370
210 M=PEEK(340):IFM=223ANDB>1125THENGOSUB430
220 POKE1066,122:PRINT@0,"*seastrike*";:PRINT@1,
SHOTS";S:PRINT@23,"HITS";H;:PRINT@8,"TIME",TI;
230 IFTI<1THEN840
240 GOTO120
250 CLS5
260 PRINT@100 "A R E  Y O U  R E A D Y?":FORR=0TO
300:SCREEN0,1:NEXT
```



Variables

B aircraft
V,W,X,Y,Z bombs
A,C,D anti-aircraft shells
S shots
H hits
TI time

Hints on conversion

In text mode, the Dragon screen consists of 32 columns by 16 rows ie 512 positions. Poking to the text screen starts at the top left hand corner, address 1024 and extends to address 1535 (bottom right hand corner)

CLS clears the screen in text mode the number following it (0 to 8) indicates the background colour

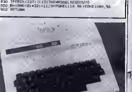
Locations 338-345 are keyboard buffers. At locations 341 344 a value of 223 indicates that one of the arrow (cursor) keys is depressed

The Dragon does not require the use of LET or GOTO after THEN

Screen 0,1 after a PRINT AT or in a peek line causes the screen background to change to an orange colour (in the former case) and flash orange in the latter

The codes used to represent the characters are a modified version of the standard ASCII codes. There are no lower case characters — you choose between inverted and non inverted text

```
270 CLS8:PRINT@100,"S T A N D  B Y ....";
280 FORX=0TO300:SCREEN0,1:NEXT
290 CLS5:FORT=220TO250STEP2:A=(RND(8)):SOUNDT,2:CL
SA:PRINT@55,"B E A S T R I K E";:NEXT
300 RETURN
310 B=B+30:POKEB,95:POKE(B-30),96:FORA=1503TO1088S
TEP-34:POKEA,110:POKE(A+34),96:POKE1503,13
320 IFPEEK(B)=110THENPOKEB,255:SOUND200,2:SCREEN0,
1:H=H+1:B=(RND(8)*32)+1119
330 IFA=247THENNEXTA
340 POKE1095,96
350 S=S+1
360 RETURN
370 B=B-34:POKEB,95:POKE(B+34),96:FORC=1468TO1088S
TEP-34:POKEC,110:POKE(C+34),96
380 IFPEEK(B)=110THENPOKEB,255:SOUND200,2:SCREEN0,
1:H=H+1:B=(RND(8)*32)+1119
390 IFC=247THENNEXTC
400 POKE1094,96
```



```
410 S=S+1
420 RETURN
430 B=B-34:POKEB,95:POKE(B+34),96:FORD=1465TO1088S
TEP-34:POKED,110:POKE(D+34),96
440 IFPEEK(B)=110THENPOKEB,255:SOUND200,2:SCREEN0,
1:H=H+1:B=(RND(8)*32)+1119
450 IFD=223THENNEXTD
460 POKE1091,95
470 S=S+1
480 RETURN
490 PRINT@48,"TIME";TI;:IFB<1390THENB=B-33:POKEB,9
5:POKE(B+33),96:FORQ=1TO70:NEXTQ:V=V+32:POKEV,97:P
OKE(V-32),96:IFV>1471THENPOKE1510,175
500 TI=TI-1:B=B-1:POKE(B+1),96:POKEB,95
510 IFPEEK(1506)=175ANDPEEK(1507)=175ANDPEEK(1508)
=175ANDPEEK(1509)=175THEN860
520 IFTI<1THEN840
530 IFV<1535THEN490
540 IFV>1535THENV=1318
550 RETURN
560 PRINT@48,"TIME";TI;:FORQ=1TO70:NEXT:Z=Z+32:POK
EZ,97:POKE(Z-32),96:IFZ>1471THENPOKEZ,255:POKE1507
,175
570 TI=TI-1:B=B-1:POKEB,95:POKE(B+1),96
580 IFPEEK(1506)=175ANDPEEK(1507)=175ANDPEEK(1508)
=175ANDPEEK(1509)=175THEN860
590 IFTI<1THEN840
600 IFZ<1535THEN560
610 IFZ>1530THENZ=1251
620 RETURN
630 PRINT@48,"TIME";TI;:FORQ=1TO70:NEXT:W=W+32:POK
EW,97:POKE(W-32),96:IFW>1471THENPOKEW,255:POKE1508
,175
640 TI=TI-1:B=B-1:POKEB,95:POKE(B+1),96
650 IFPEEK(1506)=175ANDPEEK(1507)=175ANDPEEK(1508)
=175ANDPEEK(1509)=175THEN860
660 IFTI<1THEN840
670 IFW<1535THEN630
680 IFW>1535THENW=1188
690 RETURN
700 PRINT@48,"TIME";TI;:FORQ=1TO70:NEXT:X=X+32:POK
EX,97:POKE(X-32),96:IFX>1471THENPOKEX,255:POKE1505
,175
710 TI=TI-1:B=B-1:POKE(B+1),96:POKEB,95
720 IFPEEK(1506)=175ANDPEEK(1507)=175ANDPEEK(1508)
=175ANDPEEK(1509)=175THEN860
730 IFTI<1THEN840
740 IFX<1535THEN700
750 IFX>1535THENX=1154
760 RETURN
770 PRINT@48,"TIME";TI;:FORQ=1TO70:NEXT:Y=Y+32:POK
EY,97:POKE(Y-32),96:IFY>1471THENPOKEY,255:POKE1509
,175
780 TI=TI-1:B=B-1:POKEB,95:POKE(B+1),96
790 IFPEEK(1506)=175ANDPEEK(1507)=175ANDPEEK(1508)
=175ANDPEEK(1509)=175THENGOTO860
800 IFTI<1THEN840
810 IFY<1535THEN770
820 IFY>1535THENY=1125
830 RETURN
840 CLS5:PRINT@101,"T I M E  E X P I R E D";:PRINT
@158,"HITS";H;:PRINT@176,"SHOTS";S;:PRINT@227,"pre
ss'enter'for a new game";:SCREEN0,1
850 M=PEEK(337):IFM=191THEN70ELSE850
860 CLS0:PRINT@33,"E C H O + O I L + R I G"
;:PRINT@131,"D E S T R O Y E D!!";:SCREEN0
,1
870 PRINT@163,"**************************";
880 PRINT@322,"PRESS 'ENTER' FOR ANOTHER TRY";:SCR
EEN0,1
890 IFPEEK(337)<>191THEN850ELSEGOTO70
900 B=(RND(8)*32)+1119:POKE1118,96:POKE1088,96
910 RETURN
```

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Your micro as a teacher

Our reviewers chalk up their ratings on the latest batch of educational software

Marathon/ Maths for Fun Atari £14.95

English Software, 50 Newton Street, Piccadilly, Manchester

This double bill is one of the first educational cassettes from this company. Both attempt to teach mental arithmetic while providing entertainment. One succeeds admirably and one is a tragic failure.

Firstly Marathon. This is a thoroughly enjoyable program which allows the user to test his or her speed of mental arithmetic.

It offers questions on the common arithmetic functions i.e. add, subtract, divide and multiply along with an unusual mode called multiples.

To answer, you move the joystick assigned by the computer to the specific answer in a grid displayed on the screen and hit the fire button. If you are correct your colour of runner at the top of the screen moves forward towards the winning post; if wrong the other runner moves. The game is over when one runner reaches the end of the track.

The program appears to be totally bug free although there is a rather long pause after RUN is typed before the computer responds; otherwise this is very well put together which meets its aim admirably.

Overall this is a poor shadow of a program compared to the masterpiece of Marathon.

D.R.

instructions	85%
ease of use	60%
display	80%
value for money	80%

★ ★ ★ ★

Titre 48K Spectrum £9.50

Cloud 9 Software, 4 Dolvin Road, Tavistock, Devon PL19 9EA

Titration is a means of determining the properties of one chemical by observing the change brought about by the addition of another known solution. Of course this program is likely to be of interest to chemistry students.

I was a bit doubtful while loading the program. A cassette insert of flimsy paper with the title on it and a self adhesive label on the cassette itself do not give a tremendous impression, but when it loaded, I was pleasantly surprised.

The instructions are very scant and I think this cassette is best used alongside a text book.

There are details of 10 indicators that you can use in the simulated titration and the whole thing is totally menu driven. There is also a worksheet which gives you six questions or things to do using the program and claims that these are A level questions. All I can say is that I must be brighter than even I thought I was.

A good tape and a good idea that could and should be taken much further.

N.B.

instructions	60%
ease of use	90%
display	95%
value for money	70%

★ ★ ★

Maths Games Dragon £9.95

Premier Microsystems, 208 Croydon Road, Anerley, London SE20 7YX

This cassette contains four games which sharpen up the basic skills in addition, subtraction, multiplication and division. Each of the sections has a title indicating the popular view of mathematics as a torturous occupation: "sadistic subtraction", "murderous multiplication" or "diabolical division".

As games I didn't find them particularly entertaining or addictive. The whole exercise was carried out in a laborious way with nothing but the sound effects to reward or correct the student.

The responses to the answers were fast and the initial layout was good. Some of the games offered skill levels at the start (from "beginners" to "know it all") and all of them adjusted the level of difficulty as you went along.

However you did have to wait a long time before any result showed (having to complete 50 sums!) which I found a little daunting.

A good feature in the division game was the multiple choice format which enhances the skill of approximation. A poor aspect of the multiplication game was the low res blocks which you had to count up; occasionally these were joined and proved hard to define.

M.P.

instructions	50%
playability	40%
graphics	20%
value for money	30%

★ ★

Hidden Letters Spectrum £5

Poppy Programs, Richmond House, Ingleton, Carnforth, Lancs

The leaflet with Hidden Letters describes it as an educational game to improve spelling and comprehension, and gives full details.

Loading is quite quick, giving more instructions and a choice of nine difficulty levels. You can choose a text provided in the program or enter up to 12 lines of your own. This requires some care as the cursor keys do not work, so you must delete back to any errors made, and retype.

The chosen text is then displayed on the screen with some letters obscured by black squares — nearly all of them at difficulty level nine. A blue square is then moved with the cursors to cover a blacked letter and its identity guessed by pressing the appropriate key.

If correct the letter appears with some coloured stars at the bottom of the screen as a score. Wrong guesses produce a polite bleep and the zero key the correct answer but no score. When complete, the total score and an invitation to repeat appear.

This is quite an ingenious program, well thought out and presented, though I would have liked to see more use of colour to brighten up the mostly black on white displays. I doubt it will do much for spelling skills.

H.W.C.

instructions	90%
ease of use	70%
display	80%
value for money	70%

★ ★ ★ ★

Mathematical Graphics BBC B £5.95

Village Software, 69 Gomer Lane, Alverstoke, Gosport

This package consists of two main programs; the first a fairly sophisticated program for drawing cartesian graphs of mathematical functions with parameter option and entry of asymptotic values, and the second enables the user to design and draw graphs of polar equations.

The screen display will only support one colour cartesian graphs but the user can select the graphics colour.

Both programs are useful for demonstration and interactive learning because the user has an immediate visual feedback of the effects any parameter change has on the shape of the graph. The screen display is easy to set up and the screen instructions clear but more thought should be given to the booklet.

During the graph drawing a continuous X Y coordinate readout along with information regarding axes range and functions are shown on the screen. Text may be placed anywhere on the screen and displays may be dumped to a printer.

There were a number of program [illegible] which prevented me from using the circle drawing option and I could not change any of the functions in the polar plotting option until I delved into the listing.

J.H.D.

instructions	60%
ease of use	70%
display	75%
value for money	80%

★ ★ ★ ★

Why Soft Joe's won't conform

Liverpool-based Soft Joe's is holding out against the flashy presentation that pushes up prices, as Dave Carlos discovered when he met partners Tom Myles and Gary Metcalfe on a ferry across the Mersey

"We sometimes describe ourselves as the neo punk movement of the computer world, but we are under a great deal of pressure to conform", said Tom Myles one of the partners in Soft Joe's software house, as we crossed the river Mersey on the Birkenhead ferry

"We are trying to give people good programs at the right prices, but to do so we have to cut all the glossy presentation and flashy advertising

"Charging £10 for a game is robbery and it isn't even necessary Computer programs are in danger of becoming like Easter eggs, big attractive packs but with very little content We are trying to stand against this style and give our customers tru value for money."

Tom started the business with his partner Gary Metcalfe in April this year after five months of planning and research. Both wanted to start their own businesses and "we knew more about computing than shopkeeping" said Tom

Finding a name was a struggle They liked the idea of Micromania, but saw someone else using that

Then one day in a pub, Gary remarked that someone "had more money than Soft Joe", which is a scouse expression for being rich. That just clicked, and the name stuck

To get the catalogue started they placed local advertisements for programmers and ended up "talking to a lot of dads" said Tom, "as all the programmers seemed to be young lads!"

From this, they contracted several programmers and released four programs for the Dragon and BBC micros "We were advised that we couldn't lose if we started by mail order, but it didn't turn out that way at all Mail order is good if you have a big name in software, but if you are just starting then we found it to be very slow and not up to our expectations"

For this reason, Gary is now on the road, direct selling the company products to dealers "We find that once we demonstrate a game to a dealer they are very impressed and we get repeat orders Our games don't have flashy coloured inserts or adverts but they are great value at our price of £5 50

"We are being pressurised to do full colour inserts, though One company said that they would only take our products if they were re-packaged in colour, and we went so far as to get the artwork prepared for one program before we decided that wasn't for us"

Paul Clansey chief programmer for the company, agrees with their approach "I find the current state of the business distressing," he said "Packaging may be a good thing if it is informative, but I don't see the point in reading a long story about a program if the game itself is rubbish After all, it really is the egg that matters, you know"

Unusual also is the company's refusal to copy arcade games "We prefer to leave that to everybody else If an arcade copy is not entirely accurate, the public are disappointed, and they deserve more than that", said Tom

"All our games are fusions of many styles and ideas We believe it's the idea that matters and the programming is only a route to the realisation of the idea itself Therefore all our games are difficult to categorise — they don't fit into the usual pigeonholes. Our best selling game Trax appeals to a wide range of and to both sexes alike" Paul particularly pleased about this as he would like to see more women taking an active interest in computing

The company currently has 10 titles in its catalogue, and doesn't see the number increasing greatly in the near future despite plans for new releases

"We have several new programs ready for release, but we prefer to give each game its time and then withdraw it ready to promote another one and concentrate on that for a period", said Tom

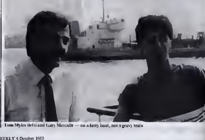
They do however plan to cover more machines, in fact, they aim to support the six top selling machines, and expect to have a catalogue of two programs per machine

"We have recently converted Trax for the Commodore 64 and that is now available Another game we hope to release before Christmas is for the Dragon. It has taken over six months to write and has 38 different screens to play

"It is an original arcade style game written in machine code for compactness and speed We aren't sure yet whether it will load in one block or have to be loaded in more than one but, it will be a real winner, and unique too

"We see this business as being like the record and video markets. It is only really possible to concentrate on a certain number of titles at any one time, and that's what we will do We don't want to be pressurised into putting out more and more titles just be like everyone else, our aim is always to give good value to our customers" It will be interesting to see if the company can stick to its good intentions in the computing jungle we live in today

Soft Joe's, Claughton Road Birkenhead Merseyside L41 6EF



Tom Myles (left) and Gary Metcalfe — on a ferry boat, not a gravy train

Find the way out . . . or you'll be munched

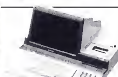
Here's a new version of an old favourite. Enjoy playing Maze Monster, written by Frank Rooney for the Sharp MZ-80K

A random maze is constructed and the object is to find the way out of the maze without being gobbled up by the Maze Monster who is also roaming the maze.

The character is moved using the keys W (up) A (left) D (right) and X (down). There are three sizes of maze to choose from and there is an option for fast or slow movement.

Variables

S delay factor for slow speed
T maze size
HM horizontal dimension of maze
VM vertical dimension of maze
P location of character (C)
B location of monster (M)
HO maze exit
EE maze start
T(T) increment for direction of maze path
T(G) monster movement increment
A character movement increment
POKE 10167,1 removes the PEEK protect on the MZ-80K to allow the use of
PEEK(17828) which returns the ASCII code for any key that is held down (useful for continuous movement).
POKE 4514 and **POKE 4513** are for sound effects which are called by **USR(68)** and silenced by **USR(71)**.
USR(62) sounds a bleep.
MZ-80K screen map is from 53248 to 54247



How it works

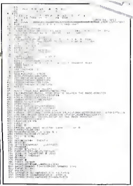
100-160 initialisation
170-220 five seconds countdown giving a chance to familiarise the maze before game commences
230-240 actual game-movement routines for character and monster
440-530 success routine
540-600 gobbled up routine
610-760 option for new game
770-990 constructs the maze
1000-1100 selection of size of maze and speed of movement
1110-1300 title, sound effect, option for instructions
1310-1380 display instructions

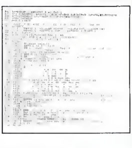
Hints on conversion

Conversion to the Sharp MZ-80A is fairly straightforward. POKE10167,1 should be deleted from line 100. Line 370 should be changed to GETK$:IFK$ = " " THENA = 0:RETURN and line 380 omitted. The movement keys should be changed to 8,4,6 & 2, and lines 390-420 changed, e.g. 390 IFK$ = "2"THENA = 40: RETURN, etc.

The instructions should also be changed accordingly. The monster symbol and character symbol cannot be printed but only POKEd onto the screen on the MZ-80A, and so POKEs must be used to underline the title (or use a different symbol) and in the instructions. Also, a different symbol should be used for Z$ in lines 460 & 590.

I suggest that owners of other machines should consult the program notes before attempting to convert the program. It may be best to use the idea for working out a program of your own as all the POKEs for your computer would take some time.





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Packing in the programs

All these tapes have at least four programs, and some have as many as seven. But do they mean more for your money? See what our reviewers think

Gamespack 48K Oric £7

Sector 7 Software, P O Box 8, Newton Abbot, Devon, England

This is a standard BASIC gamespack which we can always expect soon after a new machine is launched.

It consists of seven games including Laser Station, similar to Missile Command, but much slower. Obstruction, a standard game of surround. Mazatronic, explore a 3D maze, Demolition, play Blitz on an abandoned planet. Noughts & Crosses (not again!), Millibox, another chase type game, and Maths Test (do I really need to explain this one?)

None of the programs really stand out, indeed you would probably do better buying seven different copies of HCW with One programs in them!

The instructions were very clear, but then the programs weren't that complicated. The cassette contained a fast and slow saving of each program.

I only experienced loading difficulties with the programs on side B of the tape, but at least I managed to get them in eventually — more than I can say for some tapes.

There were a few small programming bugs in some of the programs but on the whole they were quite well written, even though the ideas behind the games were not all that fantastic.

P S

instructions	80%
playability	40%
graphics	50%
value for money	20%

★ ★

Venture Spectrum £5.95

Protek, Clydesdale Bank Building, Edinburgh

A set of seven small games linked by a money-scoring theme. To allow compatibility with the 16K Spectrum the games are loaded in two passes, a second load being performed after the first four games have been played.

The first game invites you to back one of three ducks which will race across the screen. The second is a fruit machine simulation, the third is a treasure hunt and the fourth is a version of Mastermind. If you succeed your money increases; if you fail it is halved.

The first game after the second load invites you to crash more than 100 cars in a stock-car race simulation, the next is a fairly good version of Bomber, in which you try to clear away tall buildings before your plane descends far enough to crash into them, and the last game is an offbeat hunt for gold in a small maze.

The graphics are very good indeed, and there are some amusing comments here and there. The whole thing, in fact, is a bit tongue-in-cheek, poking legitimate fun at some of the less polished offerings.

D T

instructions	90%
playability	95%
graphics	100%
value for money	90%

★ ★ ★ ★ ★

Biorhythms/Farmer/Play Your Cards/Snooker TI-99/4A £7

Stainless Software, 10 Alstone Road, Stockport, Cheshire SK4 5AH

Whether you take it seriously or not Biorhythms is certainly fun to try out. Calculations are made to show your good, bad or critical days. Your compatibility with someone may also be tested — a match being rated as percentages.

Poor error trapping, however, gives results for impossible days of the month, dates before you were born and the program sometimes crashed completely.

Farmer is a text only game, the object being to make money by trading livestock. Commands to eat and sleep form a fundamental part of play as bargaining may come to an abrupt end should you die through lack of either.

In Play Your Cards you must guess against the computer whether the next in a series of cards is higher or lower in denomination than the previous one. Not a particularly involved or interesting game.

Snooker is a mainly text version of the Waddington dice game for two players. You have options to nominate which colour you will attempt to pot, try for a snooker or resign. Trying to pot a ball out of sequence results in a foul stroke.

J W

instructions	70%
playability	50%
graphics	30%
value for money	50%

★ ★ ★

Gamestape 1 16K ZX81 £5

A E Stubbs and N Sheard, Astle Farm East, Chelford, Nr Macclesfield, Cheshire

Six machine code arcade games on a good quality C60 cassette. The packaging is cheap but adequate for the mail order market where it's the programs that count.

The recordings are good, loading first time, and the programs run automatically. The only minus is a very short gap between programs, making them difficult to locate by fast winding.

The tape starts with an introduction that more than makes up for the external presentation. It explains each game briefly and gives a guarantee that any bugged programs or bad tapes will be replaced free of charge.

The six games are Centipede, Haunted House (Pacman), Berserk, Nasties (prevent the Nasties from reaching your nuclear pods by using your laser bolts), Kong and Kermit (Frogger).

My favourite was Kong, a very good version with excellent graphics. There are four stages of skyscraper to descent, with rolling barrels, falling rivets, holes and conveyor belts.

Haunted House was also exceptionally good. Kermit has good graphics but seems to have been written in a hurry — key response is poor and one of the landing bays is physically impossible to reach!

A B

instructions	95%
playability	90%
graphics	99%
value for money	99%

★ ★ ★ ★ ★

Pot-Pourri Spectrum £4.95

JRS, 19 Wayside Avenue, Worthing, Sussex BN13 3SU

This, as the name implies, is a mixture of games and utilities, two of each.

The first of the games, called Track and Attack, invites you to shoot down a total of 10 helicopters. Using the cursor control keys you have to manoeuvre a noisy flashing asterisk, or laser weapon, directly over the helicopter which is on a random flight path.

Occasionally you find that you have shot down your own helicopter whereupon you are suitably chastised. The scenario for the battle is a screen string which of course will disappear if you stop and restart the game.

The second game is Blackjack or Pontoon with you playing the computer. Straight away the odds are against you — the computer has £1 000 and you have only £100. A well worn theme for a computer game with nothing special to endear you to it.

Called Superscript, the first of the two utilities enables you to have super sized writing on the screen should you so desire. Char Wallah (I always thought that meant tea boy) is the second of the utilities. Someone has taken the trouble to create 50 characters which may come in handy for games.

Along with the demonstration of simple animation, that's all there is to it.

B B

instructions	90%
playability	60%
graphics	50%
value for money	50%

★ ★ ★

MR. CHIP SOFTWARE

VIC 20 GAMES AND UTILITIES

JACKPOT
This is it the ultimate Fruit Machine for the VIC with nudge hold and respin 100% machine code. Overall Jackpot is a beautifully written simulation giving superb graphics, animation and use of colour. In fact this program makes Commodore's Fruit Machine cartridge look unbelievably cheap & nasty. Home Computing Weekly No. 20 19/7/83 £5.50

KWAZY KWAKS
Accuracy and speed are required for this Shooting Gallery, superb use of colour & graphics in this new and challenging game from the author of **Jackpot** 100% machine code, joystick or keyboard control £5.50

PACMANIA
Choose your own game from the following options — difficulty 1-2, speed 1-3, size of maze 1-3, visible or invisible maze, still or moving power pills, define your own key controls, any combination, if this is your type of game, then this is the one for you, for the 3K expanded VIC only (available Now) £5.50

SNAKE BYTE
Guide your ever hungry snake round the screen, eating the flies and wasps, to stay alive you must avoid the deadly mushrooms, quick reactions are required for this biting game, keyboard control, for the unexpanded VIC (available NOW) £5.50

BUGSY (Joystick Only)
This is a Minefield with a difference as you step on the stones whilst collecting purple hoses which give you both time and points, they disappear from beneath your feet. DO NOT DESPAIR! "BUGSY" will randomly replace the stones but avoid bumping into him or it's sudden death! An original compulsive and challenging game £5.50

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WHAT THE PRESS SAY ABOUT IT —

IF YOU have always wanted to manage a football team, FOOTBALL MANAGER from Addictive Games is for you — The game is ideal for a football fanatic but the most interesting thing for us was the 3-D graphics used to show the goalmouth action — the game is a winner
SINCLAIR USER FEBRUARY 1983

Although I am no great football fan, I really enjoyed playing this game — excellent use is made of teams and user-defined graphics. The game is very logically put together so that the development of strategy and tactics has a real effect. For example, one of my teams got through to the fourth round of the F.A. Cup where it was beaten by a second division side. This upset morale and meant that our promotion bid failed. Perhaps I should have given up the F.A. Cup run and held some good players here — the possibilities are endless. Brian Clough had better watch out!

SPECTRUM VERSION ONLY

HCW 18

COMX 35 PROGRAM

Use your joystick and get munching

Our first program for the COMX 35 is from Deborah Horne, aged 13, and shows how to program the computer's joystick and have fun too

Happy Eater is a simple program to show owners of the COMX 35 how to program using the built in joystick — something the manual does not cover

The aim is to eat as many blocks in the time set, using the TIMEOUT facility

I have found that the error messages are not always correct as the COMX sometimes gives the wrong line number when debugging a program

Note There is one space between the quotation marks in lines 230-236

```
1 CLD  DEFINT D  DIM A (20,20)  S = 0
2 SCREEN (3)  TIMEOUT (1000)
3 VOLUME (1)
5 CPOS (0,0)  CLS
7 CPOS (11,11)  PRINT "CREATING THE MAZE"
10 FOR B = 1 TO 20  FOR C = 1 TO 20  A(B,C) = 237.
   NEXT C  GOSUB 600  NEXT B  GOSUB 300
50 FOR B = 1 TO 250  A (RND(18) + 2, RND (18)+2)
   = 0  NEXT B  GOSUB 300
80 TIME (5000)
90 CPOS (2,0)
100 FOR D = 1 TO 20
110 PRINT TAB (10),
120 FOR C = 1 TO 20
130 PRINT CHR$ (A,(C,D)),
140 NEXT C  PRINT
150 NEXT D  PRINT
210 A = 12  B = 20
220 K = KEY
230 IF K = 136 A = A - 1  CPOS (A+1,B)  PRINT"
    " IF A  3 A = 3
232 IF K = 138 A = A + 1  CPOS (A-1,B)  PRINT"
    " IF A  20 A = 20
234 IF K = 137 B = B + 1  CPOS (A,B-1)  PRINT"
    " IF B  28 B = 28
236 IF K = 139 B = B - 1  CPOS (A,B+1)  PRINT"
    " IF B  11 B = 11
238 IF A(B-9, A-1)       0S = S+1  GOSUB 300
   A(B-9, A-1) = 0
239 CPOS (0,15)  PRINT "SCORE   ", S
240 CPOS (A,B)  PRINT "   "
245 GOTO 220
300 TONE (60,4,8)  WAIT (2)  TONE (0,0,0)  RETURN
500 TONE (36,2,4)  WAIT (10)  TONE (0,0,0)  END
600 TONE (RND(128), RND (8), RND (15))  RETURN
1000 GOSUB 500  END
```

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Crashproof your ZX81

Are you troubled by crashing programs? The answer is to check your input, says Ray Elder

As your programs become more complex, and start to include several different options, you'll find that much of your program is concerned with checking inputs, often converting them to a numerical value

My friends take a great delight in trying to crash my programs, and so my search for an idiot-proof INPUT or INKEY$ began

INPUT A was useless — a non numerical input often crashed. INPUT A$ was better, but needs checking before using VAL A$ as, again, an alphabetical character causes a crash

One method for doing a check of an INPUT string consists of putting valid keys into a string then calling an input subroutine as follows

```
100 LET C$ = "123E"
110 GOSUB 90000
9000 LET I$ = INKEY$
9010 IF I$ = "" then GOTO 9000
9020 FOR X = 1 to LEN C$
9030 IF I$ = C$ (X) THEN
   RETURN
9040 NEXT X
9090 GOTO 9000
```

The main problem with this is the delay caused when C$ is lengthy but the value of X represents the positional value of the key pressed. In the above example, if 1, 2 or 3 were pressed, X would also equal 1, 2 or 3; if E was pressed, X would equal 4

Getting a string of characters was also a complex job with this system, and of course if BREAK was pressed accidentally (or otherwise)

What I wanted was a set of machine code routines to allow these three input variations: press a single, valid key; press a single valid key within a time limit; accept a sequence of valid characters (string)

The first problem is being able to find the check string — C$ — easily from within the machine code. We must also be able to redefine it during a program run.

The answer is to DIMension it at the first line (except for the machine code REM) of the program, then it will always be six bytes in from the start of the variables area. Our progam must start with

```
10 DIM C$ (n)
```

Where n is the maximum number of valid keys to be checked at any input plus two. The extra elements are to hold "end of valid keys" markers so that the ZX81 knows to stop checking

I use a * for this marker. It must be included in C$ each time it is redefined, eg

```
70 LET C$ = "ABC*"
```

or else the program will crash

We will now enter the machine code. I have not explained its operation, but only how to enter and use it. We will store it in a REM line, so first enter 1 REM (160 dots)

It is important that at least 160 dots follow the REM. Now enter program 1, which consists of two sections: a program to POKE the code into position and a program to PEEK at the code for checking

RUN your program and enter the following code. You can enter as many codes as you wish but do not put spaces between them. I suggest you enter each line (six codes or 12 characters) at a time

The code is split into sections for information only. You can enter each section straight after the last — there is no need to stop and restart

(a) Check for key pressed subroutine

Address	Code					
16514	CD	BB	02	44	4D	51
16520	14	3E	00	28	F5	CD
16526	BD	07	7E	C9		
(b) Wait for a correct key						
16530	21	8C	40	36	F5	CD
16536	82	40	01	06	00	2A
16542	10	40	09	0E	01	BE
16548	C8	57	3E	17	BE	7A
16554	28	EB	23	03	18	F3
(c) Timed INKEY$						
16560	21	8C	40	36	04	11
16566	00	10	D5	CD	82	40
16572	01	06	00	2A	10	40
16578	09	0E	01	BE	28	0D
16584	57	3E	17	BE	7A	28
16590	04	23	03	18	F2	0E
16596	00	D1	7B	B1	C0	1B
16602	7A	B3	20	DA	C9	
(d) String input (including print)						
16607	21	FE	40	01	01	00
16613	E5	C5	CD	92	40	C1
16619	E1	77	23	FE	76	C8
16625	03	D7	E5	C5	CD	BB
16631	02	2C	20	FA	18	EA

Save your program, because if you have made a mistake you could lose the lot

Now try the following tests, and if any fail, reload and check by typing RUN 9200. BREAK when you discover an error

RUN, enter the address at the beginning of the error line (s) and re-enter that code

Test 1, routine (a)

Type RAND USR 16514 newline. The screen should go blank until you press a key. Use instead of 123 IF INKEY$ = "" THEN GOTO 123

Test 2 Routine (b)

Enter

```
10 DIM C$ (38) or number of
   valid keys + 2
20 LET C$ = "ABCDEFG*"
   or valid keys + a *
30 LET X = USR 16530
40 PRINT X
```

When RUN the screen will again be blank, but this time the program will only continue when a key held in C$ is pressed

Test 3 Routine (c)

Replace line 30 with

```
LET X = USR 16560
```

When RUN this time the program will continue immediately a valid key is pressed and also after about 7-10 seconds if no valid key was pressed but X is given the value 0. A line like

```
IF X = 0THEN GOTO
```

can be used

The length of delay can be altered by POKEing address 16567 with a value between 1 and 255 ie POKE 16567 1 slight pause or POKE 16567 255 very long wait

Test 4 Routine (d)

Replace existing lines (with the same numbers) with

```
30 LET C$ (7) = CHR$ 118
```

NEWLINE code, to allow user to press newline when finished. One character before the C$ * leave a space for it

```
40 LET A$ = ""
50 FOR J = 1 to 16607
60 LET A$ = A$ + CHR$(PEEK
   (16637 + J))
70 NEXT J
80 PRINT at 21,0 A$
```

As you will see, when you press a valid key it will be printed at the present PRINT position, so a line PRINT "WHAT IS YOUR NAME" will allow the characters to be entered after the message

Pressing NEWLINE terminates the message and line 60 retrieves it and stores it in A$. If C$ consisted of numerical characters then VAL A$ can be used to retrieve the value

A word of warning — the characters inputted by routine (d) are stored in the spare bytes at the end of the REM. As it is a maximum of 32 characters may be used — any more and the whole program will be destroyed

You can of course allow for extra by increasing the size of the REM at the start. A REM of 334 characters will allow you to type in a whole screenfull, though this isn't very practical

Once all the routines are working, make a note of the REM and delete all lines except for 1 REM and 10 DIM C$ (N), perhaps adding a few genuine REMS such as 2 REM USR 16514 = any key etc, and save it a few times

When you need a program load this first and you have a set of input routines pre-programmed for use

Program 1

```
9000 PRINT "ADDRESS TO
   START ?";
9010 INPUT A
9020 PRINT A
9030 LET A$ = ""
9040 LET X = 0
9050 IF A$ = "" THEN INPUT
   A$
9060 IF A$ = "S" THEN STOP
9070 IF X = 0 THEN SCROLL
9080 IF X = 0 THEN PRINT A

9090 PRINT A$(TO 2);" ";
9100 POKE A,16*CODE A$+
   CODE A$(2)-476
9110 LET A = A + 1
9120 LET A$ = A$(3 TO)
9130 LET X = X + 1
9140 IF X = 6 THEN GOTO 9040
9150 GOTO 9050
9200 PRINT "START ADD-
   RESS ?"
9210 INPUT A
9220 FOR J = 0 to 21
```

```
9230 SCROLL
9240 PRINT A,
9250 FOR J = 0 TO 5
9260 LET P = PEEK A
9270 LET N = INT (P/16)
9280  PRINT  CHRS  (N + 28),
   CHRS (P 16*N + 28),
9290 LET A = A + 1
9300 NEXT J
9310 NEXT I
9320 IF CODE INKEYS      118
   THEN GOTO 9320
9330 GOTO 9220
```

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Our jury returns its verdicts

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Last Sunset for Lattica 48K £5.50

Arcade Software, Technology House, 32 Chislehurst Road, Orpington, Kent

The authors of this game describe it as a true graphical adventure. It is an attempt to mix an arcade type game with an adventure.

This has been achieved by certain sacrifices to the concepts to both, and I doubt if it will satisfy the fans of either type.

The object is to work your way along a maze to a control core, where a bomb is set to destroy the planet. More than 600 androids patrol the maze and shoot at random.

As it is a real time game, you have to balance the advantages of earning points destroying androids in the maze with the speed at which you try to get to the core and defuse the bomb.

As in adventure games, you can pick up things along the way: keys get to a higher level and power pills give you extra lives (you start with four). Only a small section of the maze is shown on the screen at once, but after a few games, you should know the best route to take.

There are some bugs — androids occasionally fail to die when hit, and your gun jams when it should fire. Androids walk through you (which the instructions say will happen), but occasionally destroy you as they do (which should not happen).

D.N.

instructions	60%
playability	40%
graphics	60%
value for money	50%

★ ★ ★

Base Invaders/Scramble/High Noon £6.50

Work Force, 140 Wilsden Avenue, Luton, Beds

Work Force aimed to produce an "L.P." of Spectrum games for the new user. From other sources these games would cost more than £15 if brought separately.

Base Invaders is a version of Space Invaders, Scramble resembles Orbiter/Penetrator and High Noon is a western shoot out game complete with cactus and a chuck wagon.

There is, however, a catch.

Although each of the games is written in machine code and therefore fast, graphics animation and sound are fairly crude when compared with the latest offering from Ultimate, Megadodo or Imagine. Similarly, title pages and character sets are very unsophisticated.

It looks as if Work Force has repackaged three of its early Spectrum programs as an incentive to new users.

As such this is a very worthwhile effort. Having spent £100 or so on a computer another £15 seems a lot just for games. This beginners' pack at just £6.50 eases the pain and gives you a great deal for your money.

D.M.

instructions	—
playability	90%
graphics	60%
value for money	90%

★ ★ ★ ★ ★

Splat £5.50

Incentive Software, 54 London Street, Reading, Berks

This is a rather different development of the general ideas of the Pacman games.

You are in a maze, which moves about the screen, carrying you with it. If you are carried to the edge, you are splatted and have to try again. Meanwhile you need to pick up points by collecting grass and other things.

There are seven levels to explore, and you can opt for four different control formats. The maze is well defined but a little cramped, and sometimes offers no possibility of escape as it carries you towards the surrounding brick wall. The grass is nicely done.

If this sounds like limited enthusiasm, it is not entirely fair. But it must be suspected that games of this sort have a limited durability, in the sense that they will emerge from their boxes after increasingly longer intervals, especially as their owners find more interesting things to do with their computers.

Nevertheless, the game is well done, with some very good graphics, and for those who have pride in the flexibility of their fingers it will present a useful challenge.

There was no loading problems, though the process took rather a long time, and this must be partly due to the creation of a rather fancy display while loading proceeded.

D.T.

instructions	70%
playability	75%
graphics	80%
value for money	70%

★ ★ ★ ★

Wanderworm 48K £5.50

Havensoft, 85 Scotch Street, Whitehaven, Cumbria

Some considerable effort went into the production of this adventure game where the player assumes the role of a poor little wriggly worm who must find his way through unimaginable worm threatening hazards, to his uncle's Worms day party.

It was so difficult to crack this one in order to review it before Christmas, I had to cheat by listing the whole program.

I then proceeded to test every branch of the tree and found some interesting graphics and convolutions of the plot in the process.

I was particularly impressed by the effort that went into the input string handling which is flexible enough to accept variation on a theme and not hung up for the lack of a full stop etc.

On my voyage of discovery, my poor little wormlike body was pecked to death by crows, mashed by cars and whatever you do, and this is the only tip I'll give you, don't drink the clear liquid. Sulphuric acid does not taste nice!

All in all, a good adventure game which, although not pushing back the frontiers, is worth the money.

M.B.

instructions	50%
playability	90%
graphics	80%
value for money	90%

★ ★ ★ ★ ★

The Detective 48K £5.50

Arcade Software, 32 Chislehurst Road, Orpington, Kent

The presentation of this game is a trifle misleading. It seemed to suggest a sort of real time adventure, but the first stage looked more like a variant on Space Invaders.

At the bottom of the screen stands a little man, while coloured shapes rain down on him diagonally. He must avoid contact with these, and can shoot some — but not all — of them down.

He can also walk, briskly and realistically, to right or left. This is very well done, though there are times when you wish he could walk a little faster.

The first impression is that there should be no difficulty in avoiding the threats from above, but it is harder than it looks, especially when a little dog appears to snap at the man's heels. If the dog catches up, all points disappear, so some priority must be given to escaping from him. Fortunately, when the man trots off the side of the screen and reappears on the far side, the dog is missing.

It appears that there are 25 levels to the game, but it was not possible to check that.

The graphics detail was exceptionally good — a lesson to some of the more casual programmers but even that was not enough to make up for the disappointment after the hopes raised by the presentation.

D.T.

instructions	60%
playability	85%
graphics	80%
value for money	75%

★ ★ ★ ★

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Top Ten programs for the Spectrum

1	Jet Pac	Ultimate (1)
2	Scrabble	Psion (3)
3	The Hobbit	Melbourne House (4)
4	Flight Simulation	Psion (6)
5	Tranz-Am	Ultimate (2)
6	Horace and the Spiders	Psion/M. House (5)
7	3D Tanx	dk'tronics (8)
8	Ah Diddums	Imagine (7)
9	Cookie	Ultimate (10)
10	Horace Goes Skiing	Psion/M. House (–)

Compiled by W H Smith. Figures in brackets are last week's positions

Top Ten programs for the ZX81

1	Flight Simulation	Sinclair (3)
2	Football Manager	Addictive (4)
3	Space Raiders	Sinclair (2)
4	Scramble	Quicksilva (6)
5	Planetoids	Sinclair (–)
6	Fantasy Games	Sinclair (5)
7	Defender	Quicksilva (9)
8	Ship of Doom	Sinclair (10)
9	Asteroids	Quicksilva (7)
10	Espionage Island	Sinclair (8)

Compiled by Boots. Figures in brackets are last week's positions

Top Ten programs for the VIC 20

1	Arcadia	Imagine (1)
2	Wacky Waiters	Imagine (2)
3	Skyhawk	Quicksilva (3)
4	Gridrunner	Llamasoft (7)
5	Catcha Snatcha	Imagine (5)
6	Cosmiads	Bug Byte (4)
7	Escape MCP	Rabbit (–)
8	Cosmic Crunch	Commodore (8)
9	Frantic	Imagine (9)
10	Panic	Bug Byte (10)

Compiled by Boots. Figures in brackets are last week's positions

Top Ten programs for the Dragon

1	The King	Microdeal (1)
2	Frogger	Microdeal (2)
3	Android Attack	Microdeal (3)
4	Nightflight	Salamander (5)
5	Space War	Microdeal (4)
6	Ring of Darkness	Wintersoft (6)
7	Dragon Trek	Wintersoft (10)
8	Planet Invasion	Microdeal (7)
9	Morocco Grand Prix	Microdeal (9)
10	Quest	Dragon (6)

Compiled by Boots. Figures in brackets are last week's positions

U.S. SCENE

Your micro in the kitchen

Are you ready for the kitchen computer? Apparently not a lot of other folk are either, but this type of thing is rapidly taking hold.

Micro Cookbook is a novel software package. The program list for $40 with an add on option at $12 and an advanced function package at $30. The basic program is a recipe manager which allows ease in modification for quantities served, meal planning, and so forth. The add ons option provides for more recipes in certain areas such as desserts or Korean food.

The advanced system option allows for file merging, an archival retrieval system, and advanced meal planning, as well as being able to drive a printer to generate hard copy.

Other kitchen related software includes such titles as Weight Control and Nutrition from Texas Instruments, Dietician from Diet Ware, of Texas, The Coupon Manager from Timex/Sinclair, Nutri-Calc from PCD Systems of Penn Yan New York, Key Shoppe from Universal Instrumentation of Huntington Beach California, Micro Barmaid (no doubt for those in the liquid lunch set) from Virtual Combinatics Rockport, Massachusetts, In Shape from DEG Software, in Houston, Texas, Diet Calc from Savant Software, Houston, Grocery Mart by Commodore, Dinner's On from Briley Software, Livermore, California, and Diet Analysis from Apple Computer.

If you don't have a micro, don't worry. Mattel makes a $50 hand held computer called Diet Trac that holds calorie information on the basic four food groups. It also holds the U.S. Recommended Daily Requirement of vitamins and sodium. It is designed to keep running daily totals of caloric and sodium intake in order to help curb both. According to Mattel diet related software is currently being developed for the Aquarius.

Softsmith Software, of Union City, California, feels that software which enhances a person's lifestyle is part of the wave of the future. Toward this end, it offers five packages related to the kitchen.

There are Drinks On A Disk, Dinner On A Disk, Micro Cookbook, and Micro Barmate, with prices staring at around $15. Most of these are database management types of programs which provide recipes, count the calories, help plan meals based on ingredients the user selects, and can even generate shopping lists.

It would seem that many people would find it hard to resist buying a program that could tell you what meals you could cook and/or what drinks you could mix based on what you already have in stock.

It is interesting to observe that program whose main function is to generate a shopping list have not done well. Most of these do not work for one of two main reasons. Either the program is not flexible enough, and will not print the list tailored to either product categories or store layout, or the potential buyer is an impulse buyer and does not like to shop in such a structured manner (even though shopping from a list will keep impulse buys to a minimum and can drastically reduce costs). Such programs tend to appeal more to single men whose main interest is in pre planning and in shopping rapidly. Dinner's On is especially useful in this regard as it allows pre planning for up to 25 meals and will generate a comprehensive shopping list for these.

Most of this type of software is selling fairly well through mail order outlets, but not as well over the counter. As more and better programs come out, and the marketing of such gets more creative, this may turn out to be a rather large market. Who knows, it may even contribute to reducing the weight of the average American (which is typically 40 pounds more than optimum).

Out of room again. See you next week.

Bud Izen
Fairfield, California

Send your letter to Letters, Home Computing Weekly, 145 Charing Cross Road, London WC2H 0EE. Don't forget to name your computer — the best letter could win £5-worth of software. Queries cannot be answered on this page

My Micronet experiences

I have been using Micronet on my TRS 80 Model III for a few weeks now and thought that my experiences may be of help to others unsure whether to take the plunge.

At the moment the service is available to BBC, Pet, Spectrum and TRS 80 models I & III owners. As well as a microcomputer and access to a telephone, users need communication software and a suitable modem. These are supplied via Micronet 800 at a very competitive price. For the TRS 80 Model I they cost £59.95. Model III users have to pay £64.95 but their software is on disk and requires 48K of memory. Both users will need the RS 232C circuit board installed.

Whether the system is good value for money really depends on how much you are going to use it. For example, Micronet [illegible] boasts a mailbox service whereby a member can leave messages for other members by utilising their machines. The disadvantage is that messages can be left unseen for days at a time if you don't dial into Micronet.

A facility that is likely to have many advantages in the future is purchasing products over the telephone line. A number of companies have pages in Prestel that offer this service and they usually ask for a credit card number to be keyed in as well as your choice of product.

There are at least 100 free programs that can be directly loaded into your machine. These programs do, in the main, load successfully but [illegible] of the quality that you will find in most computer magazines. There are also [illegible] educational programs, utilities and business programs.

Around 80% of the Prestel pages do not incur any cost in addition to the telephone charges, providing you use the system in off peak times. Most of these are data pages containing such things as local events by area, train times and costs (have you ever sat waiting for British Rail to answer a telephone call for a train time?).

Subscribers are sent a Prestel directory every three months and the current issue has 20 pages of entries (classified by subject).

Using Micronet is fairly simple. First you must connect the modem to a power point and to the RS232C port on your computer. Then, after loading the software that is provided, the user is presented with a series of menus. One of these takes you to the sub menu that allows you to dial into (log on) and terminate access to Prestel (log-off).

Selecting automatic log on from the menu allows you to dial the local Prestel number. When a continuous tone is heard you place the handset in the modem and [illegible] a Prestel welcome page is displayed on the video screen. Enter your password and away you go!

I have experienced one or two problems with the system. There was a minor bug in the software provided. This was a pre release copy and will, I am sure, be corrected before the main batch is released.

Occasionally you do experience a bad telephone connection and obtain garbage on the screen. In this case just log off, replace the telephone and start again.

The other problem is telephone charges. I have yet to receive my first bill since using Micronet, but it is bound to be higher.

Keeping an eye on the clock gives you a good idea of the telephone bill that you are incurring — one way you can do this on the TRS 80 Model III is to turn on the system's clock display.

David M. Bell, Telford, Shrops

I've got computeritis

What's so unusual about a female of the species owning and using a computer?

You'd think, after reading the magazines, that it was an exclusively male occupation.

Look at the majority of pre recorded tapes available — Space Invaders, Frogger, Pacman, and what about all those adventure games? Not a hint of a female — unless she's a damsel in distress and needs rescuing by our hero.

Don't get me wrong. I enjoy a game of Space Invaders or Frogger — playing Frogger in the same room as my husband made him realise how extensive my vocabulary is. He now leaves the room when I play.

I'm not the world's greatest programmer — yet. I'm working on it. Give me a year or two and I might surprise you. Admittedly my programs at the moment are short but they run — much to the surprise of various male friends. I get a lot of pleasure out of typing other people's programs and then debugging them. What's wrong with that?

I bought a ZX81 six months ago on impulse, and I've had a lot of fun and frustration with it, especially with some of the adventure games. Would someone mind telling me what the significance of the native woman in the guarded clearing is? Or is she just there to add local colour?

I've now bought a 48K Spectrum and boy doesn't it show up the 81 graphics? Must get a colour TV sometime. My ten year-old daughter now uses the 81 altogether. I still use it to try out programs and play games on.

Where is all this leading to? I'd just like to point out that ladies also use computers, so why is the software available so male-orientated? I've a feeling the only answer is to get stuck in and write my own.

Computers can change your life — be warned! Ever thought of a computer as a dieting aid? Well, mine is. I get so involved with what I'm doing that I tend to forget the time and the little things like making meals and baking.

Does my figure a power of good, but every so often my husband comes in and requests nourishment. My reply to him to go and see what he can find doesn't go down too well, and when I do cook, I have to remember to set the timer on the oven. Burnt offerings have now become the order of the day.

Work is a necessary evil, to support my computer in the style to which it has become accustomed. Do you think I've got computeritis?

Oh well. Back to the Spectrum!

Patricia Bates, North Walsham, Norfolk

★ *Software winner*

Coded appeal

I am interested in machine code programming but my information is very limited so if any of your readers know anything about M/C programming on the VIC 20 would they please write in so HCW could publish it. I would like to congratulate Simon Scott for his excellent Munch Maze program in issue 7.

R. Bates
Worsley, Manchester

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I know that you are now utterly flabbergasted, it always happens to everyone with whom I come into contact. Please sit back and **imagine** for a moment my **FIRST DIVIDEND** wins alone — they now number 765 (seven hundred and sixty five) and will probably be even more by the time this advertisement appears in print

I AM NUMBER ONE IN THE WORLD AND NO ONE DISPUTES IT

For as long as I continue to enter the Football Pools my wins will continue. I have already said they apply with equal success to both English and Australian Football Seasons

I intend to release a STRICTLY LIMITED NUMBER of copies of my cassette, (either for Sinclair ZX81 or Sinclair Spectrum) — DO NOT DELAY AND FIND YOU ARE TOO LATE, in which case I would have to refund your money

I am so confident of **YOUR** success that if **you do not** win at least THREE FIRST TREBLE CHANCE DIVIDENDS in the first 20 weeks of entering I will completely cancel the balance of the purchase price and you do not have to pay me another penny at any time no matter how vast your winnings.

I only wish that space would allow me to give you photographs of my winnings slips, cancelled cheques, etc but it is of course impossible — they now number 8,201 dividends. I have however given JUST A FEW EXTRACTS from ORIGINAL LETTERS I hold from my small Clientele

I am the Inventor and Sole Proprietor of my method, Registered as EUREKA — (*I have found it*) I am known as The Professor in Pools Circles — I am of the Highest Rank in Forecasting — this is beyond dispute. I am marketing a limited number of Computer Cassettes under my Registered Company — FOOTBALL ENTERPRISES

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This is surely proof absolute of my supreme and utter confidence in my own abilities and in the capabilities of my discovery. I could easily CHARGE £2 000 per cassette on the evidence I possess but that would not be fair to everyone which is **what I** want to do

My method is WORLD COPYWRIGHT any infringement and immediate proceedings will be taken, without prior warning. It is truly ingenious and has stood the test of time

My cassette is simplicity itself to operate and you'll be given FULL DETAILS for weekly calculating. Your entry need not involve you in any large weekly stakes, you can enter for as little as 25p, if you wish.

I charge NO COMMISSION on any of your wins — *no matter how BIG they may be*

I realised a long time ago, that it was no good sitting down and **dreaming** about winning the pools, so I burnt the candle at both ends, working late into the night, occasionally RIGHT THROUGH THE NIGHT. **I KNEW** there was a way, eventually it all paid off and has been doing so ever since

I am **unable** to vary my offer to anyone so please do not request it, as I shall very easily dispose of the cassettes I have prepared and am making available

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Don't take my word for it, read what people write about me and my method! —

I won on Zetters last weekend. It was not a big sum, but all the same it was a very nice surprise for me.
J.C. Lancs

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C.H., Devon

Winnings cheque received today, sincere thanks.
D.N., Devon

I congratulate you on your achievement
R.R. Wales

I should like to thank you for a most exciting season and look forward to hearing from you again
J.C., Hants

I would like to acknowledge cheque and say how much I appreciate your integrity
J.M. Scotland

Many thanks for your system it is all you say and more.
J.C., Lancs.

Your wonderful system won me £3 327 I intend to visit London soon and will be able to come and see you personally.
(Overseas Client) P.M., Kampala.

Many thanks for trying so hard to please us all, your brother should be thanked also One of our daughters WHOSE HUSBAND YOU HELPED ENORMOUSLY has just phoned, the four of them have just spent a lovely holiday in Spain.
K.R. Isle of Man

I sent in my FIRST entry last week and won 2nd and 3rd dividends, as you will see from the enclosed certificate. One more and I would have collected over £400 for FIRST dividend. Once I've won a fair amount I shall be staking from winnings and at 1p per line A FIRST DIVIDEND last week at this would have been over £3 000
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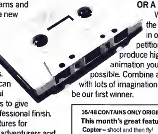

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